

Revision of Afrotropical *Emmesomyia* Malloch, 1917 (Diptera: Anthomyiidae), with descriptions of seven new species

by

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ABSTRACT

The Afrotropical *Emmesomyia* species are revised to include 15 species from Africa. Seven new species are described: *sublongipes*, *incerta*, *lupata*, *cincinnata*, *deemingi*, *nudiloba* and *tumida*. New synonymies: *Emmesomyia propleuralis* Emden, 1941 = *E. fascigera* (Stein, 1906); *E. nigrolutea* Malloch, 1921 = *E. maculithorax* (Stein, 1906); and *E. tarda* (Stein, 1913) = *E. micans* (Stein, 1906). The Neotropical genus *Anthojuba* Albuquerque & Couri, 1981, is newly synonymised with *Emmesomyia*. Three groups of species within Afrotropical *Emmesomyia* are suggested, namely the *E. fascigera*, *E. maculithorax* and *E. socia* sections, but as no phylogenetic analysis has been attempted at this stage, these groupings may be paraphyletic.

INTRODUCTION

Emmesomyia contains approximately 41 species from all Regions, excluding the Neotropical Region, where the number of species is uncertain. Nine species are known from the Nearctic Region (Griffiths 1984); 11 from the Palaearctic Region, including 2 from the west Palaearctic (Michelsen 1983, Suwa 1991); about 6 from the Oriental Region (Ackland & Pont 1977), although this fauna is unrevised; and the 15 Afrotropical species included in this revision.

The earliest descriptions of African species were three described by Stein (1906). Three further species were described by him in 1913. Malloch described four further species in 1921 and 1924. Of this total of ten *Emmesomyia* species, seven were described from females only. In view of the difficulty of identifying females of Anthomyiidae and correctly associating the sexes, this led to numerous misidentifications. Emden (1941) described three further species, all based on males. The final taxonomic work on the genus in Africa was published by Emden (1951).

All the types of Malloch's and Emden's species are in BMNH, and have been revised. Of Stein's species, those described in 1913 were deposited in the Hungarian Natural History Museum, Budapest, but were almost certainly destroyed in 1956 (see under *maculithorax* for exception). Three species described by Stein in 1906 are in ZMHU, and were kindly loaned to me by Dr H. Schumann.

Prior to this work, no drawings of the male or female genitalia of Afrotropical *Emmesomyia* species had been published. It is hoped that the present revision will form a useful basis for future work on the identification and distribution of the species; a shortage of well preserved material, associated male and female specimens, and of material from many areas of the continent, has made it difficult to

draw definite conclusions concerning some vicariant populations from isolated areas (e.g. at high altitude in the Ruwenzori Range). In addition, the extent of variation of widely dispersed species has been difficult to assess.

Many characters of value in distinguishing species were not appreciated by earlier workers; for example the setulose wing vein R_{4+5} in females of some species, does not occur in the males, but is a secondary sexual character.

The life history of *Emmesomyia* species is little-known. Most species are probably coprophagous. *Emmesomyia hasegawai* Suwa was reared from eggs and larvae found on cow dung (Suwa 1979 1991). Both Griffiths (1984) and Suwa (1991) found larvae in the abdomen of several species (*socia* Fall., *flavitorsis* Suwa, *suwai* Ge & Fan, *kurahashii* Suwa). In the last three species Suwa found 1st or 2nd instar larvae. In the present study several specimens of *E. maculithorax* Stein had a single 3rd instar larva taking up most of the abdomen, with mouth-hooks of the 1st and 2nd instar larvae also present. The holotype female of *Hydrophoria ignobilis* Malloch (species closely related to *maculithorax*) has a 3rd instar larva emerging from the abdomen; the appearance of the mouth-hooks led Malloch to erect the genus *Rhodesina* because of the 'spines on the cerci'. It is probable that most larviparous species lay 1st or 2nd instar larvae, but in the Afrotropical section with very short ovipositors (*maculithorax* section), an almost fully developed larva is laid.

MATERIALS AND METHODS

This study was based on material from the following museums (acronyms in parentheses):

Natal Museum, Pietermaritzburg (NMSA)

The Natural History Museum, London (BMNH)

National Museum of Wales, Cardiff (NMWC)

Staatliches Museum für Naturkunde in Stuttgart (SMNS)

Zoologisches Museum der Humboldt-Universität, Berlin (ZMHU)

Morphological terminology is based mainly on McAlpine (1981). Label data of holotypes (including described and new species, and described paratypes) are quoted exactly as they appear; a single slash (/) indicates the end of a line of print, and two slashes (//) indicate that the subsequent data is found on the lower surface of the label. Supplementary information is given in square brackets. The citation of 'Other material examined' was standardised for dates of collection and other data, and may therefore not be exactly as found on the specimen labels.

Dissected specimens have their genitalia mounted either in glycerol in plastic vials mounted on the staging pin, or in some cases where the genitalia have been dissected into smaller fragments, in Canada Balsam on transparent cellulose. Drawings were made with a camera lucida.

The following abbreviations are used:

Head: ors = superior orbital setae; ori = inferior orbital setae.

Thorax: post = postsutural; prst = presutural; acr = acrostichal; dc = dorsocentral; sa = supra-alar; pra = prealar; npl = notopleural; ph = post-humeral.

Legs: f1 = fore femur; f2 = mid femur; f3 = hind femur; t1 = fore tibia; t2 = mid tibia; t3 = hind tibia.

Setae: a = anterior; p = posterior; d = dorsal; v = ventral; ad = anterodorsal; pd = posterodorsal; av = anteroventral; pv = posteroventral.

The scale line on the figures represents 0.1 mm, unless otherwise stated.

GENERIC SYNONYMY

Emmesomyia Malloch, 1917

Emmesomyia Malloch, 1917: 114. Type-species: *Emmesomyia unica* Malloch, 1917 (= *Spilogaster socialis* Stein, 1898), by original designation.

Taeniomyia Stein, 1919: 150. Type-species: *Taeniomyia auricollis* Stein, 1918, by designation of Séguay (1937: 141). Synonymy after Griffiths (1984: 351).

Rhodesina Malloch, 1921: 424. Type-species: *Rhodesina ignobilis* Malloch, 1921, by original designation and monotypy. Synonymy after Emden (1941: 258).

Neopegomyia Malloch, 1929b: 101. Type-species: *Neopegomyia orientalis* Malloch, 1929, by original designation and monotypy. Synonymy after Ackland & Pont (1977: 442).

Anthojuba Albuquerque & Couri (1981: 155). Type-species: *Anthojuba sobria* Albuquerque & Couri, 1981, by original designation. **Syn. n.**

For notes on the synonymy of *Taeniomyia* with *Emmesomyia* see Griffiths (1984: 352). The type-species of *Taeniomyia* is restricted to the Neotropical Region; some other species belonging to the segregate *Taeniomyia* (reduced to subgeneric status by Griffiths) extend into the Nearctic Region as far north as Arizona (Griffiths 1984: 377). The subgenus is characterised by the presence of a setula on the postgonite (♂) and very strong spines on the posterior margin of the 6th abdominal segment (♀); no species are known from the Palearctic, Oriental or Afrotropical Regions.

Rhodesina Malloch was characterised by 'a pair of stout claw-like thorns' on the ovipositor; as already mentioned by Griffiths (1984: 354), these are projecting larval mouth-hooks.

Neopegomyia was erected for *orientalis* Malloch, (1929b: 103) (type locality: Philippines) because the female possessed a row of setulae along most of vein R_{4+5} , both dorsally and ventrally. Three months earlier, Malloch (1929a: 390) had described *Taeniomyia nigrithorax* from Buru (♂ only). Malloch was apparently not aware that the character of a setulose R_{4+5} is only present in the ♀, and that his *orientalis* and *nigrithorax* were the ♂ and ♀ of the same species.

Anthojuba was erected for *sobria* Albuquerque & Couri (1981: 157), which is a species of *Emmesomyia* (subgenus *Taeniomyia*) from Brazil with a broad male frons and a spinose 6th sternite in the female (constitutive character of *Taeniomyia*, see Griffiths (1984: 377)). Griffiths (1984: 385) also described a new species of *Emmesomyia* (*Taeniomyia*), namely *megaloceros*, from Durango. The male of this species has a broad frons, but is distinct from *sobria* (Griffiths *in litt.* 18.ix.1994). I am grateful to Dr Griffiths for drawing my attention to this new generic synonymy, and I include it here at his suggestion.

CHECKLIST OF AFROTROPICAL EMMESOMYIA SPECIES

(a) **fascigera** section:

longipes superspecies

longipes Emden, 1941. Type locality: Uganda, Ruwenzori.

sublongipes sp. n. Type locality: S. Africa, Transvaal, Brits.

incerta sp. n. Type locality: Nigeria, Zungeru.

fascigera superspecies

fascigera (Stein, 1906), *Hydrophoria*. Type locality: N. Cameroons.

propleuralis Emden, 1941. **syn. n.** Type locality: Uganda, Jinja.

lupata sp. n. Type locality: Angola, Salazar.

(b) **maculithorax** section:

maculithorax (Stein, 1913), *Hydrophoria*. Type locality: Tanganyika, Kilimandjaro.

nigrolutea Malloch, 1921. **syn. n.** Type locality: Abyssinia, Higo Samula.

ignobilis (Stein, 1913), *Hydrophoria*. Type locality: S. Rhodesia, Chirinda.

ignobilis Malloch, 1921. Type locality: S. Rhodesia, Chirinda.

(c) **socia** section:**grisea** superspecies

cinninnata sp. n. Type locality: Uganda, Kigezi.

deemingi sp. n. Type locality: N. Nigeria, Mambilla Plateau.

micans (Stein, 1906), *Pegomyia*. Type locality: N. Cameroons.

tarda (Stein, 1913), *Pegomyia*. **syn. n.** Type locality: S. Africa, Durban.

nudiloba sp. n. Type locality: Kenya, Katamayo.

setinervis (Stein, 1906), *Hydrophoria*. Type locality: Togo.

'*ignobilis* Malloch'; Emden, 1941, ♂ not ♀.

tumida sp. n. Type locality: S. Africa, Cape, Port St. Johns.

natalia superspecies

natalia Malloch, 1924. Type locality: S. Africa, Natal, Estcourt.

marshalli Emden, 1941. Type locality: S. Africa, Natal, Ulundi.

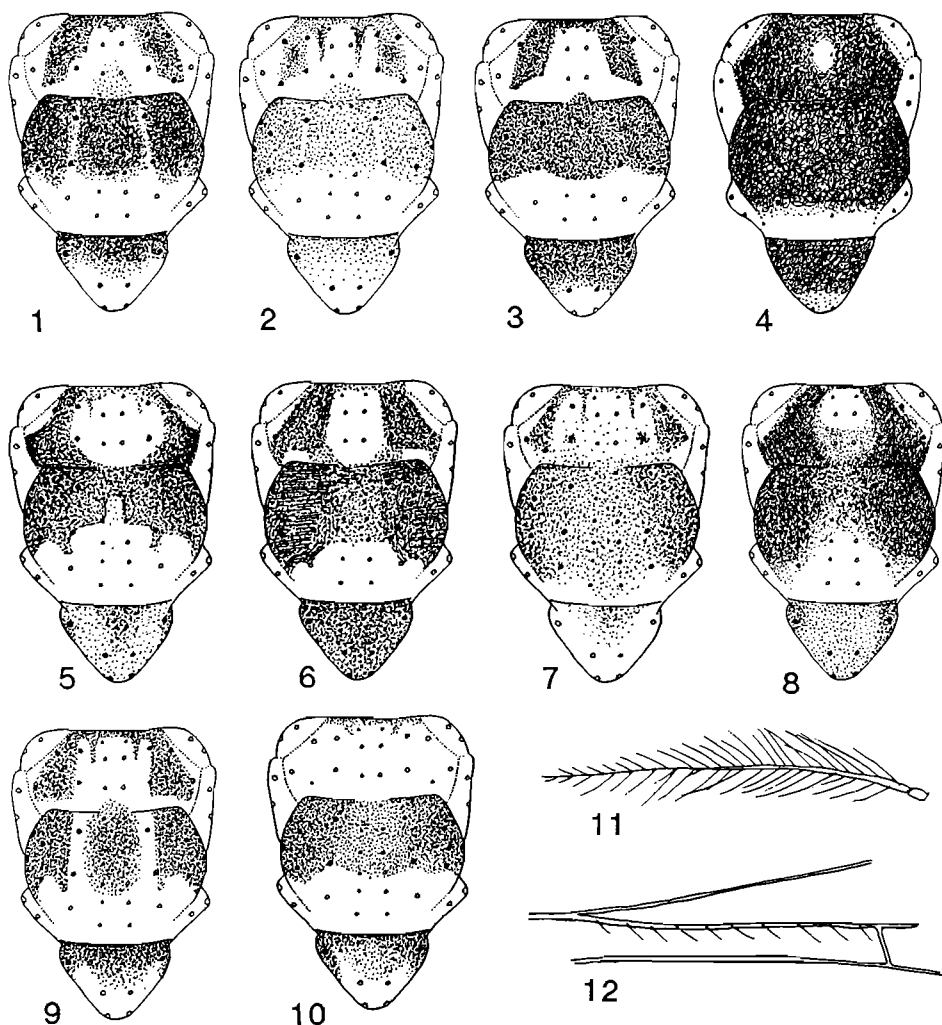
Emmesomyia was considered by Griffiths (1984: 352) to be the sister-group of *Pegomya*, sharing certain synapomorphies of the male genitalia (surstylus divided into inner and outer process, and bearing some ventral setulae). Michelsen (*in litt.*), and Griffiths (1984) have stated that there were some differences in the articulation between the bases of the surstyli, and that the male accessory glands are not enlarged, as in *Pegomya*.

Griffiths suggests the following constitutive characters for *Emmesomyia*: lower squamae enlarged, distinctly larger than the upper; pregonite broad basally and divided into two lobes, with the anteroventral lobe broader than the posterodorsal; ovipositor with two pairs of postabdominal spiracles close together on 6th tergite, with 8th tergite reduced to three bare longitudinal strips, 8th sternite also bare.

All Afrotropical *Emmesomyia* species agree with the last-mentioned characters, except the *maculithorax* section (possibly consisting of only one species, *maculithorax*, although in this paper I have provisionally retained *ignobilis* as a distinct species). In *E. maculithorax* (ovipositor strongly foreshortened) the 8th tergite is bare and more or less fused to the 10th tergite, with two sclerotized anterior arms; the 8th sternite consists of two small pads each with a single setula (Figs 70–72). The division of the male pregonite into two lobes (Fig. 58) is only weakly expressed. The relationship of *maculithorax* to the other species can only be clarified when its relationship with other Palaearctic *Emmesomyia* species with short ovipositors has been investigated.

No species of *Pegomya* as presently constituted in the Palaearctic and Nearctic

Regions, occurs in the Afrotropical Region. *Pegomya sexpunctata* (Karl), which is listed in the Afrotropical catalogue (Ackland & Pont, 1977: 718) is incorrectly placed in this genus.



Figs 1-12. Characters of *Emmesomyia* species. 1-10. Thorax, dorsal view, showing pattern. 1. *Emmesomyia maculithorax* (Stein), ♀ (Kilimandjaro). 2. *E. ignobilis* (Stein), ♀ (Chirinda Forest). 3. *E. sublongipes* sp. n., ♂ (Brits). 4. *E. lupata* sp. n., ♀ (Angola). 5. *E. cincinnata* sp. n., ♂ (Holotype). 6. *E. nudiloba* sp. n., ♂ (Holotype). 7. *E. setinervis* (Stein), ♂ (Zimbabwe). 8. *E. deemingi* sp. n., ♀ (Nigeria). 9. *E. natalia* Malloch, ♂ (Lesotho). 10. *E. tumida* sp. n., ♂ (Holotype). 11-12. *E. setinervis* (Stein), ♀. 11. Arista (Kenya). 12. Basal part of vein R₄₊₅, dorsal view.

Afrotropical *Emmesomyia* species can be distinguished from all other species of Afrotropical Anthomyiidae in the possession of one or more setulae or hairs on the upper margin of the anepimeron.

KEY TO AFROTROPICAL SPECIES OF *EMMESOMYIA* (MALES)

- 1 Anepimeron with 3–6 fine, short hairs on upper margin. 5th sternite (as Fig. 15) without strong, short, spinose setae at base of inner margin of processes (if stronger spinose setae present on processes, these confined to apical half, and not present on inner basal part, Fig. 22). Postgonite usually with setula (as Fig. 19) (uncertain for *incerta* sp. n., as only 1 ♂ examined) (*fascigera* section)2
- Anepimeron with only one setula, this not strikingly short or fine (sometimes setula duplicated on one or both sides of thorax, but if more than one is present it is not hair-like). 5th sternite (as Fig. 76) either with some short spinose setae at base of processes on inner margin (tips often fine and bent), or processes long and pointed and with lateral setae not longer than processes (as Fig. 55). Postgonite without setula (as Fig. 79)6
- 2 Scutum (Fig. 3) with a complete dark crossband, the hind margin of which does not extend beyond the 2nd post dc setae. Pleurae densely grey dusted. Proepisternum bare3
- Scutum either largely dark (Fig. 4), or with posterior margin of crossband reaching 3rd post dc setae, or proepisternum with some fine erect hairs. Pleurae less densely dusted, with shifting or semi-shining areas4
- 3 5th sternite with 5–6 subequal spinose setae on apical half of processes (Figs 22 & 23), which are placed on the middle of processes and directed ventrally
sublongipes sp. n.
- 5th sternite with only normal fine setae and hairs on processes (Fig. 28)
incerta sp. n.
- 4 Scutum (Fig. 4) mainly dark, post dark crossband reaching 3rd post dc setae, and joined on suture to dark prst marks. Apex of cercal plate wide and rounded, covered with short hairs (Fig. 46). Surstylus characteristic (Figs 46 & 47), inner process short, pointed and tooth-like, outer process apically rounded, striated and strongly curved in profile (Fig. 47)**lupata** sp. n.
- Scutum otherwise. Apex of cercal plate pointed (Fig. 13) or narrowly rounded (Fig. 39). Surstylus different5
- 5 Proepisternum with some short erect hairs. Prst acr setae stronger and rows separated from each other by 1.4 times the distance separating the prst acr from the dc rows. Wings greyish tinged. Tibiae mainly orange-yellow, pleurae partly dark brown. Cercal plate with apex narrowly rounded, not produced into a point (Fig. 39). Surstylus in profile much wider basally and curved (Fig. 40)
fascigera (Stein)
- Proepisternum without hairs. Prst acr setae weaker and rows separated from each other by a distance equal to that between prst acr and dc rows. Wing membrane smoky yellow. Tibiae brown, pleurae mainly orange, wing base, squamae and pleurae orange-brown. Cercal plate narrowly extended into a point (Fig. 13). Surstylus in profile not wider at base and straight (Fig. 14)**longipes** Emden
- 6 5th sternite without short spinose setae on inner margins at base of processes; lateral setae of processes rather short, none longer than length of processes, which are pointed and as long as basal part of sternite (Fig. 55). Pregonite hardly

- indented on apical margin (Fig. 58) (*maculithorax* section)7
- 5th sternite with some short spinose setae (tips often bent) at base of processes on inner margins (as Fig. 108). Lateral setae of 4th and 5th sternites longer (often very long). Pregonite indented on apical margin (as Fig. 79), or if hardly indented then with a small tubercle near dorsal seta (Fig. 125)9
- 7 Scutum (as Fig. 2) with a rather indistinct dark post crossband. Palpi completely yellow or at most indistinctly infuscated apically. Legs largely yellow
ignobilis (Stein)
- Scutum (as Fig. 1) with darker markings. Palpi dark brown, at most very indistinctly paler basally8
- 8 Legs paler, f2 and f3 yellow in basal half, tibiae largely yellow, with varying degrees of brownish infuscation. Processes of 5th sternite shorter than basal part (Fig. 64). Surstylus shorter (Fig. 60) (Ethiopia)***maculithorax*** (Stein)
- Legs generally darker. [Some specimens from Mt Elgon (Kenya) have legs mainly yellow, as already noted by Emden; these specimens have dark palpi]. Processes of 5th sternite longer than basal part (Fig. 55). Surstylus longer (Fig. 53) (Kenya, Tanzania)***maculithorax*** (Stein)
- 9 Prst acr rows separated by about same distance that separates prst acr and dc rows. Dark post crossband distinctly divided by grey dusting along line of dc setae (Fig. 9), or prst area of scutum without distinct dark markings (Fig. 10) ...10
- Prst acr rows separated by more than distance which separates prst acr rows from dc rows (2.0–2.5 times). Dark post crossband not divided by grey dusted stripes, and prst area of scutum with distinct darker markings12
- 10 Scutum (Fig. 9) with prst area having distinct dark marks, and post dark band divided by grey dust (latter character state not certain in *marshalli*). 2 ph setae. Legs mainly dark brown. Pregonite divided into 2 lobes (Fig. 136)11
- Scutum (Fig. 10) when viewed from behind with prst area almost without dark marks, grey dusted, and post crossband complete. 1 ph seta. Legs largely orange-yellow. Scutellum with only 5–6 setulose hairs on disc. Surstylus wider in profile (Fig. 120), the outer process in caudal view covering inner process (Fig. 119). Pregonite not indented, posteroventral margin below posterodorsal setula with a tubercle (Fig. 125). Processes and basal part of 5th sternite with short, sparser setae (Fig. 121)***tumida*** sp. n.
- 11 Larger species, body length 5–6 mm. Arista only pubescent, dorsal hairs not longer than basal diameter of arista. 4th sternite longer than wide, and without a posterior marginal row of very long strong erect setae; 5th sternite with basal part smaller, not larger than 4th sternite (Fig. 133)***natalia*** Malloch
- Smaller species, body length 3.5 mm. Arista with longer hairs, total width of hairing about 0.25 times width of flagellomere; 4th sternite shorter than wide (Fig. 144), with very long posterior marginal erect setae (Fig. 145); 5th sternite with basal part much larger than 4th sternite (Fig. 145)***marshalli*** Emden
- 12 Arista plumose, total width of hairing equal to width of flagellomere. Inner basal margin of 5th sternite processes with 4 long straight, spinose setae (Fig. 108), the apices of which almost reach apices of processes. Thorax, scutellum and

- abdomen generally mainly orange in ground colour, palpi always dark.....
setinervis (Stein)
- Arista with total width of hairing about 0.5 times width of flagellomere (at most 0.7 times). 5th sternite without above-mentioned long, straight spinose setae13
 - 13 Thorax, abdomen and scutellum mainly or completely orange-yellow, scutum sometimes with dark median stripe of varying width, extensively darkened but without pattern (*post mortem* darkening sometimes present). Surstyli (Fig. 89) rather short (longer in Ruwenzori (Uganda) material (Fig. 88)).....**micans** (Stein)
 - Scutellum dark, sometimes obscurely orange-brown; scutum, abdomen and legs at least partly darkened, the former with distinct pattern of dark areas and light dusting14
 - 14 5th sternite with processes narrow apically in profile, truncate and largely bare on outer margins in apical part (Fig. 101); inner margins with some long fine hairs; setae on lateral margins of both basal part of sternite and at base of processes very long, with fine curling tips; 4th sternite with long lateral setae, the longest reaching apex of processes of 5th sternite, but tips not curling. About 40 setulose hairs on discal surface of scutellum. Surstyli rather long and with inner lobe almost as long as outer (Fig. 99).....**nudiloba** sp. n.
 - 5th sternite processes not truncate apically, with some lateral marginal setae almost to apices15
 - 15 Surstylus wider in profile (Fig. 82), in caudal view longer and more robust, inner process with a subapical notch on outer side (Fig. 81). Cercal plate longer than wide (Fig. 81). Pregonite with anteroventral lobe wider (Fig. 87). Flagellomere 3 times as long as wide. Prst acr rows separated by 2.5 times the distance separating prst acr and dc rows**deemingi** sp. n.
 - Surstylus narrower in profile (Fig. 75), in caudal view tapering, with inner process slender and not notched (Fig. 74). Cercal plate wider than long (Fig. 74). Pregonite with anteroventral lobe narrower (Fig. 79). Flagellomere 2.5 times as long as wide. Prst acr rows separated by 2 times the distance separating prst acr and dc rows. Legs mainly orange-yellow**cinnata** sp. n.

KEY TO AFROTROPICAL SPECIES OF *EMMESOMYIA* (FEMALES)

[Note: *E. nudiloba*, *E. marshalli* and *E. cinnata* are known from males only.]

- 1 Anepimeron with 3–6 fine, short hairs on upper dorsal margin. 2 katapisternal setae, ventral posterior seta absent. Ovipositor with hind margin of 7th tergite bearing a single row of normal setae (Figs 30–36) (*fascigera* section)2
- Anepimeron with single short setula on upper dorsal margin (sometimes second finer setula is present on one or both sides of thorax, but one of them is not hair-like). 2+1 katapisternal setae (ventral posterior seta may be short and fine). Ovipositor either very short (*maculithorax* section: Figs 70–73), or hind margin of 7th tergite with at least 2 rows of (often short and spinose) setae on semi-islets (as Fig. 96) (*socia* section)5
- 2 Proepisternum with some short fine hairs.....**fascigera** (Stein)
- Proepisternum bare.....3

- 3 Scutum (Fig. 4), mainly dark, prst lateral marks fused with post crossband; viewed from a low angle in front, mainly semi-shining blackish brown, with little dusting, which is grey. Humeri orange with grey dust. Pleurae dark brown in ground colour with grey dust. Frontal triangle in front of ocellar tubercle somewhat shining. Prst acr rows separated by 1.3–1.5 times distance separating prst dc rows. Abdomen and legs partly shining. 6th tergite mainly shining blackish brown. Lateral sclerotised anterior arms of 7th tergite (Fig. 32) longer; 7th sternite longer than wide (Fig. 34).....**lupata** sp. n.
- Scutum with more dusting, not semi-shining blackish; viewed from behind the median prst grey dusted area, and prescutellar area are light grey dusted; prst dark lateral marks separated from suture by grey dust, at least at sides4
- 4 Scutum (as Fig. 3), with dark lateral prst marks completely separated from post crossband by pale dusting. Post crossband with hind margin only reaching 2nd post dc setae. Pleurae densely grey dusted. Frontal triangle grey dusted. Prst acr rows separated by the same distance which separates acr and dc rows. Total width of arisal hairing about half width of flagellomere. Abdomen less shining. 6th tergite grey dusted. Lateral arms of 7th tergite (Fig. 35) shorter; 7th sternite square (Fig. 38). [*incerta* sp. n. ♀ unknown, probably exits here).....**sublongipes** sp. n.
- Scutum with prst lateral marks joined medially by darker infusion to post crossband, hind margin of which reaches 3rd post dc setae. Pleurae more translucent orange-yellow with shifting sparse grey dust. Prst acr rows more separated from each other than from dc rows. (Frontal stripe orange-yellow in only known specimen). Ovipositor as in Figs 30 & 31).....**longipes** Emden
- 5 Ovipositor short (Figs 70–73), intersegmental membranes very short, length, when extended, from hind margin of 5th tergite to apex of cerci only 1/3 times length of preceding part of abdomen. 4th–6th tergites with some long, strong erect hind marginal setae, 6th tergite narrow and tapering, completely dusted, hind marginal setae all equally strong. Lower katapisternal seta present, though may be only 0.4 times length of upper. Abdomen dark, or basal segments partly orange-yellow. Total width of hairing of arista at most 0.5 times width of flagellomere (larviparous species, *maculithorax* group).....6
- Ovipositor long, at least as long as preceding part of abdomen, often longer. Hind margin of 6th tergite wide, with both short and long setae and setulae, not very erect. If hind marginal setae on 5th and 6th tergites are strong, arista plumose and thorax and abdomen largely orange-red7
- 6 Scutum (Fig. 2) with pale markings, prst lateral marks indented on hind margin. Palpi yellow, humeri and legs mainly yellow, femora often obscurely brown apically.....**ignobilis** (Stein)
- Scutum (Fig. 1) with darker markings. Palpi dark brown. Femora often more extensively brown in apical third or half; tibiae often infuscated.....**maculithorax** (Stein)
- 7 Entire wing vein R_{4+5} dorsally and ventrally with short, erect, fine, widely spaced spinules. 7th sternite of ovipositor with anterior margin tapering, and lateral margins of tergite 7 with extended series of short spicules (Figs 116 & 117)8

- Wing vein R_{4+5} bare, although node at junction with R_{2+3} may be setulose. 7th sternite of ovipositor with anterior margin widened, or if tapering (*natalia*) then 7th tergite without lateral spicules (Fig. 138)9
- 8 Arista with total width of hairing equal to width of flagellomere (Fig. 113). Flagellomere long, apex almost reaching buccal margin (Fig. 113). Thorax, abdomen and legs mainly orange, with obscure darker areas**setinervis** (Stein)
- Arista with total width of hairing not much more than half width of flagellomere. Scutum and scutellum mainly dark, prst area of scutum medially grey dusted, contrasting with darker lateral areas, post area of scutum with dark brown crossband. Abdomen dark, or sometimes tergites extensively yellowish
deemingi sp. n.
- 9 2 ph setae, outer one small but distinct. Femora mainly brownish infuscated, except for extreme base and apex. Post crossband (as Fig. 9) divided by grey dust into 3 darker spots, prst acr rows separated by not more than 1.2 times the distance separating prst rows from dc rows. Scutellum dark in ground colour. Arista only pubescent. Ovipositor (Figs 138–139) with longer setae on lateral hind margins of 7th segment, and only 2 rows of setae on 7th tergite medially
natalia Malloch
- 1 ph seta. Femora largely yellowish orange. Post crossband complete, when present. Prst acr rows more widely separated. Scutellum ground colour orange-brown or orange10
- 10 Scutum with dark post crossband and only very small prst marks; scutellum reddish brown in ground colour with brown dust. Prst acr rows separated by about 1.5 times the distance which separates prst acr rows from prst dc rows, with 2–3 rows of hairs between them. Only 5–6 discal setulae on scutellum. 7th sternite (Fig. 130) short, square, with a posterior extension bearing 2 short spines. 6th tergite with hind margin grey dusted**tumida** sp. n.
- Scutum and scutellum orange-yellow without cross band or prst spots (although a narrow or wider dark median stripe, or even more extensive dorsal darkening may be present). Pleurae and scutellum orange-yellow. Prst acr rows separated by about 2 times distance which separates prst acr rows from prst dc rows, with about 4 rows of hairs between them. 7th sternite (Fig. 97) longer than wide, posteriorly pointed, anterior margin wide and truncate**micans** (Stein)

TAXONOMY

E. fascigera Section

♂ ♀ : Anepimeron with several hairs. ♂: 5th sternite without spinose setae at base of processes, surstylus with only 1–2 setae on basoventral surface, postgonite with setula. ♀ : Ovipositor long, 7th tergite with only single row of setulae. [Note: Postgonite in New World subgenus *Taeniomyia* also has a setula, but the ♀ ovipositor in the *fascigera* section has no spines on the 6th segment).

The *fascigera* section can be further divided into the *fascigera* superspecies and the *longipes* superspecies. The *fascigera* superspecies has the ♂ cercal plate apically rounded, acrophallus long, and surstylus with the inner process somewhat set-off from

the outer lobe. Included species are *fascigera* (Stein) and *lupata* sp.n. The *longipes* superspecies has the ♂ cercal plate with a long pointed apex and a long, slender surstylus. Included species are *longipes* Emden, *sublongipes* sp.n. and *incerta* sp.n.

Griffiths (1984: 374) described *E. longiforceps* from Mexico, which he placed in *Emmesomyia* (s. str.). This species has long surstyli and spines on the 5th sternite processes, the surstyli not unlike *longipes* Emden, and the 5th sternite similar to *sublongipes* sp.n. However *longiforceps* has no setula on the postgonite, and only one setula on the anepimeron.

Emmesomyia longipes Emden

Figs 13–19, 30, 31

Emmesomyia longipes Emden, 1941: 258; Emden, 1951: 346, fig. 4; Paterson, 1956: 164.

Holotype ♂: *Emmesomyia longipes* Emden: 'UGANDA / Ruwenzori Range / xii.1934–i.1935 / BME Afr. Exp. / B.M. 1935–203' [printed white label]; 'Holotype' [circular white label with red perimeter]; 'Namwamba Valley / 6500ft / F.W. Edwards' [printed white label]; 'HOLOTYPE / Emmesomyia / longipes, Emd. '51 / B.M. Ruw. Exp. ii.6' [written red label]; 'Emmesomyia / longipes / van Emden det. 1940' [written and printed white label]. In good condition. In BMNH.

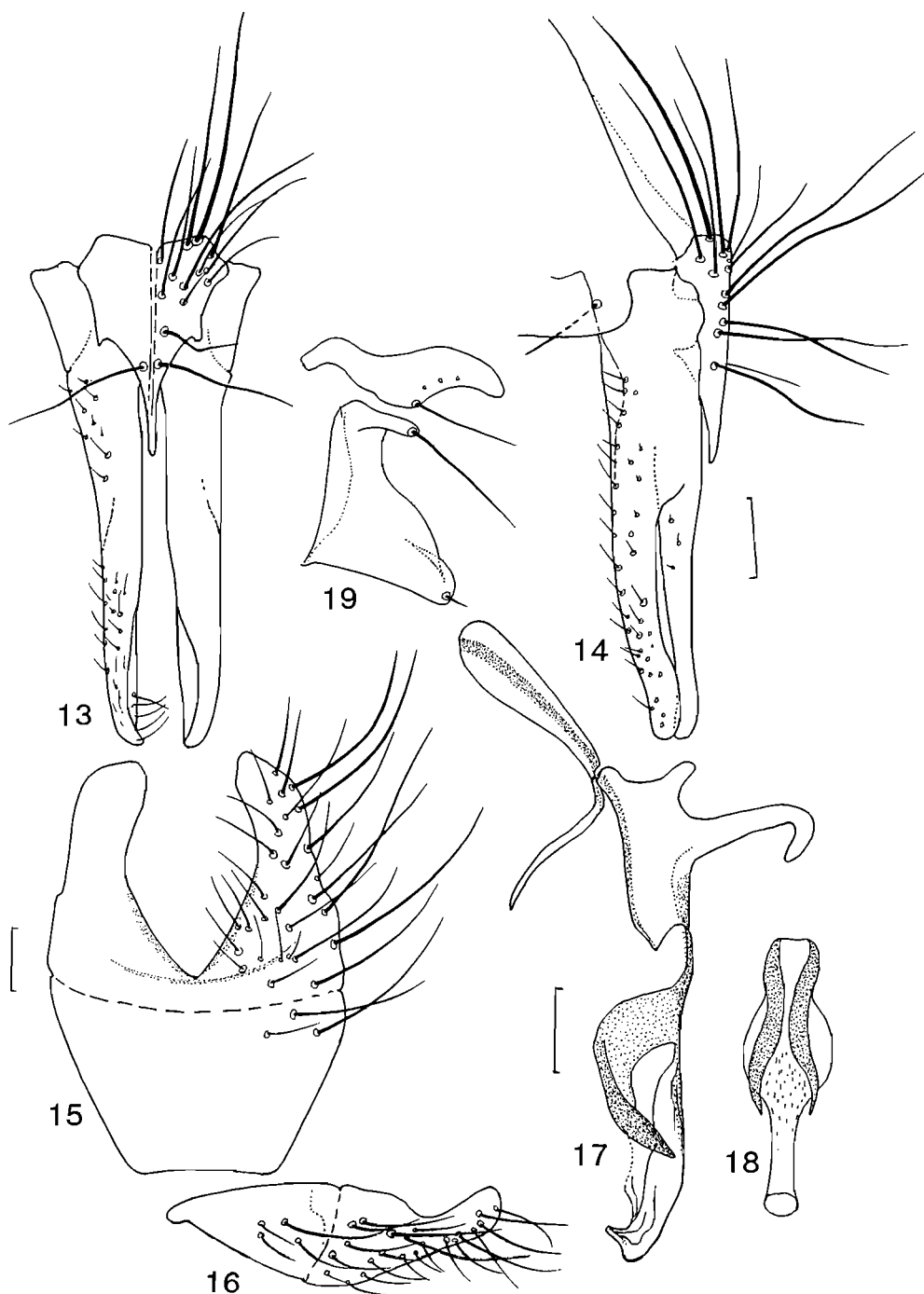
Other material examined: UGANDA: 2 ♂, W. Ruwenzori, vii.1946, van Someren, 8–9000ft (BMNH); 1 ♀, Namanve, 12.xii.1934, J. Ford (BMNH).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae mainly dark brown in ground colour, obscurely orange-brown on parafrontal near lunule, and near vibrissal angle. Antennae brown with thin grey dust. Palpi dark brown, obscurely paler basally; mentum dark brown and semi-shining. Thorax mainly orange-brown in ground colour, scutum with darker brown markings; pleurae with thin, shifting, light grey dust; viewed from above with dark brown lateral prst square spots, joined behind head, not reaching suture posteriorly, with a small whitish grey shifting median spot; humeri light orange in ground colour, with whitish shifting dust; dark brown prst band between wing bases, hind margin reaching 3rd post dc, and a grey dusted area between this and scutellum; from a low angle in front whole scutum is dull brown, humeri dirty orange; scutellum dark brown, tip obscurely orange-red, light brown dusted. Abdomen dark in ground colour with yellowish grey dust, laterally reddish brown and somewhat shining. 5th sternite yellowish orange and semi-shining. Wing membrane brownish orange tinged; wing base with only stem vein paler; squamae smoky brown; halteres orange; coxae orange, Cx1 whitish dusted; femora, tibiae and tarsi dark brown, femora very narrowly orange-red at extreme base.

Head: Parafrontalia touching on frons; eyes separated by less than diameter of anterior ocellus; genae below lowest point of eye margin about 0.1 times eye height. 3 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.5 times as long as wide; arista with total width of hairing about 0.7 times width of flagellomere.

Thorax: 3 pairs presutural acrostichals, rows separated by a distance equal to that between acr and dc rows, with 2–3 irregular rows of hairs inbetween; 1 posthumeral



Figs 13–19. *Emmesomyia longipes* Emden, ♂ terminalia. 13–14. Cercal plate and surstyli. 13. Caudal view. 14. Lateral view. 15. 5th sternite. 16. Ditto, lateral view. 17. Phallus, lateral view. 18. Distiphallus, ventral view. 19. Gonites.

seta; anepimeron with 2–3 hairs on upper margin, proepisternum bare; prealar about as long as post npl, inserted closer to suture than to sa seta; dorsal surface of scutellum with 4–6 setulose hairs on disc; 1+2 katapisternals, lower hind seta 0.8 times length of upper.

Legs: Rather long, f2 and f3 1.5 times as long as f1 and f2 slightly longer than f3; f3 with about 5 short av, and only 2–3 pv at apex; t3 about 1.3–1.4 times length of f1, with 1 av, 3 ad, 2 pd.

Abdomen: 3rd sternite 3 times as long as wide; 4th sternite twice as long as wide (widest at posterior margin); 5th sternite (Figs 15 & 16) with processes as long as base, on inner margins with 8–10 short fine setae, outer marginal setae not very long (none longer than length of processes). Surstylus (Figs 13 & 14) long and slender, straight, inner and outer process equal in length, only 1–2 setae on anteroventral margin at base. Cercal plate with long, narrow tapering apex. Pregonite (Fig. 19) wide basally, apical margin only slightly indented below posterodorsal setula, anteroventral lobe with very small setula; postgonite (Fig. 19) with a long fine setula; basiphallus (Fig. 17) with median epiphallus.

Body length 7.0–7.2 mm, wing length 7.5 mm.

Female:

Colour: Head with interfrontalia orange-brown, parafrontals partly orange translucent, upper part darkened. Antennae dark brown. Palpi brown, obscurely paler at base. Thorax as in male, dusting in parts and in certain views yellowish brown. Abdomen orange-brown to dark brown in ground colour, viewed from behind with darker brown basal patches (somewhat shining) and grey dusted patches apically on either side of a dark brown mid stripe. Wing base darkened (more brownish than in ♂), with pale stem vein; squamae paler than in male.

Head: Total width of arisal hairing nearly as wide as flagellomere (apparently wider than in ♂, only 1 ♀ examined). Interfrontalia at level of middle ors about 6 times as wide as each parafrontal; eyes separated by about 0.35 times head width; parafrontal setae differentiated into 3 pairs of ors and 2 pairs of ori; crossed interfrontal setae present.

Thorax: 1+1 katapisternal setae.

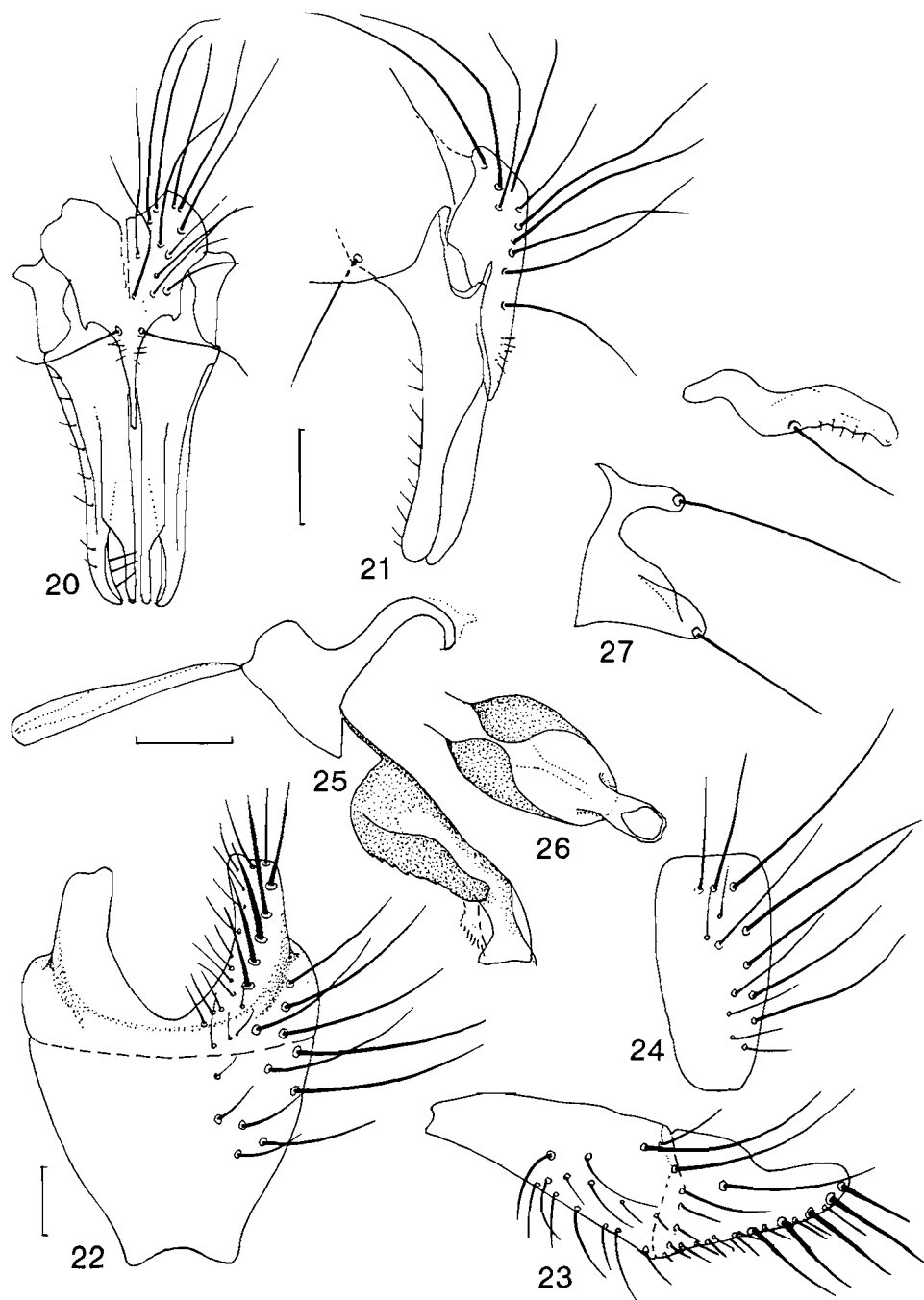
Abdomen: Ovipositor as Figs 30 & 31. Membrane surrounding 7th sternite has some short setulae, in single ♀ available; the sternite is as long as wide and has long posterior setulae; tergite has anterior sclerotised arms as long as median apical part of tergite.

Body length about 6.0 mm, wing length 6.5 mm.

Discussion: Paterson (1956: 164) recorded a female of *longipes* from Tanzania, Marangu, without any description. The identity of this specimen must remain in some doubt. It was collected at the same locality as 3 ♂ of *fascigera* (characteristic genitalia and also several hairs on proepisternum). This female has no hairs on the proepisternum.

***Emmesomyia sublongipes* sp. n.**

Figs 3, 20–27, 36–38



Figs 20–27. *Emmesomyia sublongipes* sp. n., ♂ terminalia. 20–21. Cercal plate and surstyli. 20. Caudal view. 21. Lateral view. 22. 5th sternite. 23. Ditto, lateral view. 24. 4th sternite. 25. Phallus, lateral view. 26. Distiphallus, ventral view. 27. Gonites.

Holotype ♂: SOUTH AFRICA: 'HOLOTYPE' [circular white label with red perimeter]; 'Brits / Transvaal / leg. Paterson // 7.iii.1955 / under fig' [written and printed white label]; 'HOLOTYPE ♂ / *Emmesomyia* / *sublongipes* / Ackland' [white written label with red perimeter]; 'South Africa / Dr F. Zumpt / B.M. 1976-419' [white printed label]. Gummed onto triangular card point; in good condition. In BMNH.

Paratypes (in BMNH, unless otherwise indicated): SOUTH AFRICA: *Transvaal*: 12 ♂, same data as holotype (2 with genitalia dissected and mounted in glycerol in plastic tube on staging pin); 1 ♀, same data but 11.iv.1955; 1 ♀, same data but 10-11.iv.1955, on faeces under fig; 1 ♀, same data but 7.iii.1955, human faeces under fig; 5 ♀, same data but 10-11.iv.1955, on faeces under big fig (2 ♀ dissected). *Natal*: 4 ♀, Eshowe, 6.iii.1954 (1 ♀ without head); 1 ♀, Montebello Region, Ndwedwe District, 1.x.1961, B. & P. Stuckenberg (NMSA). ANGOLA: 1 ♀, (A37), 5 mls NE Negola, 25.iii.1972, Southern Africa Exp., B.M. 1972-1.

Etymology: The species name refers to the close relationship of this species with *Emmesomyia longipes* Emden.

Male:

Colour: Head dark brown with lighter reddish areas, densely grey dusted, interfrontalia orange-brown. Antennae with flagellomere dark brown, scape and pedicel sometimes orange-red. Palpi dark brown, sometimes paler basally. Thorax dark in ground colour, with traces of lighter orange on humeri and katepisternum, pleurae light grey dusted, at some angles the dust shifts to reveal brownish translucent ground colour; scutum (Fig. 3) with dark prst quadrilateral spots limited by presutural, ph and prst dc setae, inner margins just exceeding 1st prst dc setae; viewed from a low angle behind median prst area very light grey dusted, posterior border of quadrilateral spots separated from post band by a grey dusted area; post band not divided up into spots, hind margin only reaching 2nd post dc. Scutellum with basal 3/4 golden-brown dusted, apex light grey. Abdomen largely yellow in ground colour, especially basally, with pale grey dust and darker brown markings; viewed from behind, tergites are densely grey dusted laterally, with a distinct dark brown median stripe which is triangular or diamond shaped on each tergite, the anterior half of each tergite with pale bronzy dust. Hypopygium and sternites orange-yellow to reddish orange. Wing membrane very light brownish grey tinged; squamae whitish. Legs orange-red, largely brownish infuscated, mid and hind femora clear orange basally, merging into a darker apical half, fore coxae orange, mid and hind coxae darkened.

Head: Parafrontalia narrow and contiguous posteriorly, width at level of lunule slightly less than width of flagellomere; eyes separated by diameter of anterior ocellus; genae below lowest point of eye margin 0.13 times head height; prementum as long as palpi, slightly swollen and partly shining with thin scattered dust; 3 pairs short frontal setae. Antennae with flagellomere 2.3 times as long as wide, arista with stem yellowish, short plumose, total width of hairing about 0.5 times width of flagellomere.

Thorax: 3 pairs presutural acrostichals, middle pair longest, acr rows separated by

about same distance as they are from dc rows, with short fine uni- to bi-serial setulose hairs between rows; notopleural depression and area between prst dc, ph and npl setae bare of all accessory hairs; prealar seta slightly shorter than post npl, placed midway between suture and sa; scutellum wider than long, about 0.7 times as long as wide at base, dorsal surface as viewed from behind rather convex, almost bare, at most 1–2 scattered hairs. Katepisternals 1+2, lower p seta 0.8 times length of upper; anepimeron with 2–4 fine short hairs on upper ridge; proepisternum bare.

Legs: Femora rather long, f3 1.4 times as long as t1. f3 with 4–5 short av, 1 median pv, and 2–3 short pv in apical half; t2 with 2 pd, 1 pv; t3 with 3 ad, 2 pd.

Abdomen: Strongly dorsoventrally compressed, viewed from above about 2.2–2.3 times as long as wide (at 3rd tergite), more or less parallel-sided. Hind marginal setae on 5th tergite as long as tergite. 4th sternite (Fig. 24) elongate, nearly 3 times as long as wide, with long lateral setae. 5th sternite (Fig. 22) with rather wide processes, inner margin with normal fine setae, becoming longer apically, apical 1/2 to 2/3 of processes with about 5 spinose setae along median line, lateral setae on basal part of sternite longer than laterals on processes. Surstyli (Figs 20 & 21) long and straight in profile, 1 or 2 basoventral setae, ventral margin gradually angled towards epandrium, inner apical lobe in caudal view constricted before apex. Cercal plate of usual shape, apex narrow and pointed, bearing 2 subapical setae. Pregonite (Fig. 27) divided into 2 lobes, seta on anteroventral lobe shorter, postgonite (Fig. 27) with setula; basiphallus (Fig. 25) short, epiphallus arising directly from point of attachment of distiphallus, the latter (Fig. 26) swollen with rounded margins in ventral view.

Body length 6.0–6.9 mm, wing length 5.5–6.5 mm.

Female:

Agrees with male, pra nearly as long as post npl, anepimeron with 3–4 fine hairs, humeri translucent orange, katepisternal setae 1+1 with lower p seta absent, dorsal surface of scutellum with very few setulae. Fore coxae pale orange, paler than fl. Abdomen largely orange or yellow, with dark brown mid-stripe forming triangular marks on each tergite, with shining black fore margins and orange hind margins. 1st to 5th tergites with hind marginal setae rather fine and short. Ovipositor (Figs 36–38) long, 6th tergite partly visible in dried specimens, orange-yellow with grey dust, with hind marginal setae half as long as tergite. 7th tergite with rather short anterior sclerotised arms, posterior margin with single row of dorsally directed setae; 7th sternite (Fig. 38) quadrilateral.

Body length 5.5 mm, wing length 5.5 mm.

Discussion: *E. sublongipes* belongs to the *fascigera* group (several anepimeral hairs, postgonite with a developed setula in the ♂, ovipositor long and with a single row of setae on posterior margin of 7th tergite). Unlike the other species, the male has stronger spinose setae on the apical half to two-thirds of the 5th sternite processes; these are however different from the inner basal spines found in the *setinervis* group, and have arisen independently.

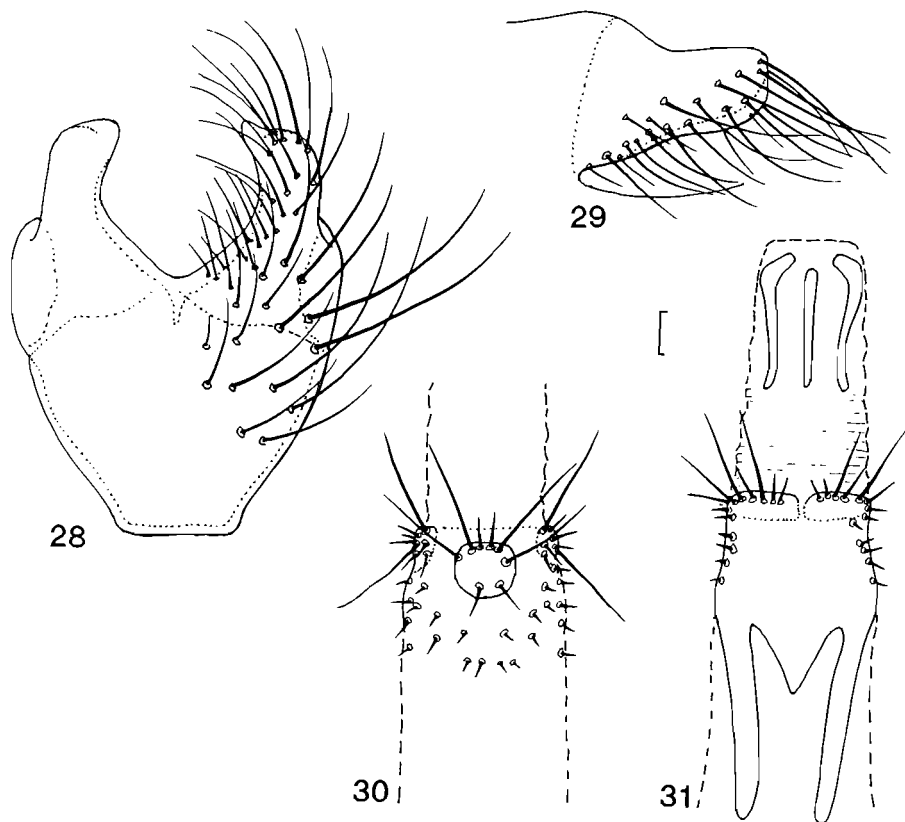
Distribution: Apart from the type series from Transvaal and Natal (South Africa), only 1 ♀ from Angola is known. The species is probably widely distributed in southern Africa.

***Emmesomyia incerta* sp. n.**

Figs 28 & 29

Holotype ♂: NIGERIA: 'HOLOTYPE' [white circular label with red perimeter]; 'N. Nigeria / Zungeru / Nov. 1910 / J. W. Scott-Macfie / 1911-417' [white printed label]; 'Taeniomyia / fascigera (Stn) / Mall.' [white handwritten (in pencil) label]; 'Holotype ♂ / Emmesomyia / incerta / D. M. Ackland' [white label with red perimeter]. In reasonable condition (fore right leg and both hind tarsi missing, genitalia dissected and mounted in glycerol in a plastic tube on staging pin). In BMNH.

Etymology: The name *incerta* refers to the doubt there must be over the status of this species, until further material becomes available.



Figs 28–31. Characters of *Emmesomyia* species. 28–29. *E. incerta* sp. n., ♂ (Holotype). 28. 5th sternite. 29. Ditto, lateral view. 30–31. *E. longipes* Emden, ♀ ovipositor. 30. 7th segment. 31. 7th and 8th tergites.

Male:

Very similar to *sublongipes* sp. n., differing mainly in the absence of spinose setae on the 5th sternite (Figs 28 & 29). Anepimeron with 2 fine hairs on one side, but only one on the other (? abraded), which are hair-like. Arista with total width of hairing

2/3 width of flagellomere. Presutural acr rows close together and with only a few hairs between rows, scutum with very few accessory hairs, especially near posthumeral setae, anepisternum with sparse and short hairs, dorsal surface of scutellum with only a few setulae. Legs mainly orange-red, fore coxae paler than f1, f2 and f3 paler yellow basally. 5th sternite without spinose setae. Cercal plate and surstyli identical to *sublongipes*.

Wing length 6.0 mm.

Female: Unknown.

Discussion: The holotype of *incerta* carries a pencilled handwritten label: 'Taeniomyia fascigera (Stein) Mall.' I believe that this specimen was probably labelled by Emden, and used by him for the characters in his 1941 key leading to *fascigera* Stein. It has genitalia identical to *sublongipes* sp. n. (described in this paper from South Africa), but lacks the spinose setae on the processes of the 5th sternite.

Emmesomyia fascigera (Stein)

Figs 35, 39–45

Hydrophoria fascigera Stein, 1906: 72; Bezzi, 1908: 96.

Taeniomyia fascigera (Stein): Stein, 1919: 100; Malloch, 1921: 424.

Emmesomyia fascigera (Stein): Malloch, 1924: 260; Emden, 1941: 258–9.

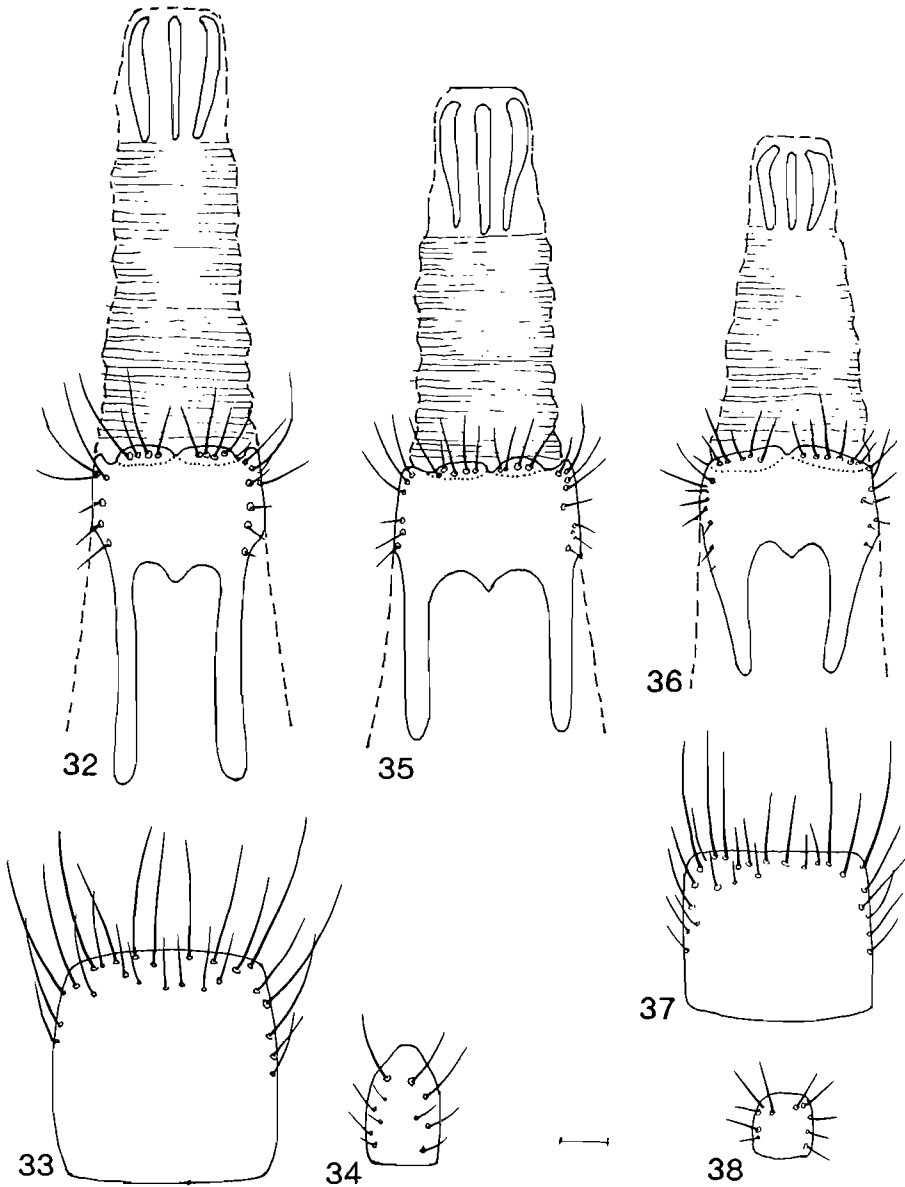
Emmesomyia propleuralis Emden, 1941: 258; Emden, 1951: 344; Emden, 1956: 529. **Syn. n.**

Holotype ♀ : *Hydrophoria fascigera* Stein: 'Kamerun / Johann-Albrechtshöhe / L. Conradt SG / 28.2.96' [printed on blue label]; 'Hydrophoria / fascigera / sp.n. / ♀ Stein' [written on pale blue label]; 'Taeniomyia ♀ / fascigera / Type (Stein, 1906) / Prof P. Stein det. 1919' [written on white label]; 'Zool. Mus. / Berlin' [printed on cream label]; 'Type' [printed on orange label]. Right flagellomere and arista, right front leg and left middle leg are missing. Reviewed during present study. In ZMHU.

Lectotype ♂ : *Emmesomyia propleuralis* Emden: 'UGANDA / Jinja / 19.viii.1930 / E. G. Gibbins / BM 1930–595' [printed on white label]; 'LECTOTYPE' [circular white label with purple perimeter]; 'Specimen / figured in / BM Ruw. Exp. 11, 6, f3' [printed on white label]; 'Emmesomyia / propleuralis sp.n. / van Emden det. 1940' [written and printed white label]. All legs missing except front right leg; right wing missing. Reviewed during present study. In BMNH.

Paralectotype ♀ : 'UGANDA / Buunga / 20.v.1926 / G. L. Hancock' [printed white label]; 'Emmesomyia / propleuralis ♀ / van Emden det. 1940' [written and printed white label]; 'PARALECTOTYPE' [circular printed white label with blue perimeter]. All appendages present, but specimen rather abraded and dirty. In BMNH.

The ♀ paralectotype of *propleuralis* agrees exactly with the ♀ holotype of *E. fascigera*, especially in the following points: arista plumose (total width of hairing equal to width of flagellomere); anepimeron with several hairs on upper margin, and proepisternum with a group of hairs; notopleuron with some short hairs between setae and posterior to post npl seta. Humeri translucent orange, viewed from above with more grey dusting, contrasting with dark presutural scutal markings; prst acr rows widely separated (about twice separation of acr and dc rows), and with 3–4 rows of hairs inbetween; scutellum apically grey dusted and translucent orange at



Figs 32–38. *Emmesomyia* species, characters of the ♀ ovipositor. 32–34. *E. lupata* sp. n. (Paratype). 32. 7th and 8th tergites. 33. 6th tergite. 34. 7th sternite. 35. *E. fascigera* (Stein), 7th and 8th tergites (Nigeria). 36–38. *E. sublongipes* sp. n. (Paratype). 36. 7th and 8th tergites. 37. 6th tergite. 38. 7th sternite.

apex. Abdomen mainly orange-red, with narrow black shining hind margins, 6th tergite sclerotised, projecting, orange and brown, moderately wide, with fine setulae on hind margin, which are nearly as long as hind margin of tergite, but are not semi-erect.

Other material examined: CAMEROON: 1 ♂, Kumba, 16.x.1949, H. Oldroyd (BMNH). KENYA: 1 ♂, Kaimosa (S), ii.1949, V. G. L. van Someren (BMNH); 5 ♂, Kakamega Forest, 18–20.xii.1970, A. E. Stubbs, 5200 ft (BMNH); 1 ♂, Kakamega Forest, 0°15'N:34°52'E., 18–22.i.1972, C. F. Huggins, 5100 ft (BMNH). NIGERIA: 1 ♂, Lagos State, Ikorodi, 3060, 6.i.1974, M. A. Cornes (BMNH); 1 ♀, Oshogbo, 1–13.x.1910, Dr T. F. G. Mayer, in house (BMNH); 1 ♂, same data but 3.viii.1910 (BMNH); 1 ♀, same data but 30.viii.1910 (BMNH). MALAWI: 1 ♀, Mt Mlanje, 22.viii.1913, S. A. Neave (BMNH). UGANDA: 2 ♂, Namanve, 12.xii.1934, J. Ford (No 610) (BMNH); 1 ♂, same data but 11.x.1934 (BMNH). BURUNDI: 1 ♀, Bururi, 5–12.iii.1953, P. Basilewskyi, 1800–2000m (BMNH). ANGOLA (A28): 1 ♀, Salazar, I. I. A. A., 9–15.iii.1972, Southern Africa Exp., 1972–1 (BMNH).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae black in ground colour, with grey dust. Antennae with flagellomere dark brown in ground colour with greyish dust, pedicel apically reddish orange; arisal stem orange in basal half. Palpi dark brown, basally lightened orange; prementum brown, with thin grey dust medially, partly shining. Thorax black in ground colour on disc of scutum, humeri dorsally, pleurae on sutures, and scutum anteriorly generally translucent orange; viewed from above, 2 lateral prst marks joined behind head, inner margins parallel (along acr rows), hind margins obscurely joined to dark post band in area of 2nd prst dc; post band clearly differentiated from contrasting grey dust, hind margin irregularly indented, reaching 3rd post dc; viewed from a low angle in front almost entire scutum is matt dark brown; scutellum dark brown with greyish dust in apical half, bronzy dusted basally, sometimes apex obscurely reddish. Abdomen brown in ground colour, apical half of tergites, and sternites, orange; viewed from a low angle behind, basal half of tergites are brown dusted, with inverted triangles, their apices reaching to hind margins; remainder of tergites light grey dusted; 5th sternite and hypopygium reddish brown. Wing membrane smoky orange tinged; wing base with veins yellowish orange; squamae concolorous with wing base; halteres yellow-orange. Coxae yellowish orange, mid and hind coxae infuscated brownish; femora infuscated brown, f3 clear orange in basal 2/3; tibiae light orange; tarsi darker brownish orange.

Head: Parafrontalia contiguous on frons in upper half; eyes separated by less than diameter of anterior ocellus; genae below lowest point of eye margin 0.13 times eye height; 2–3 pairs of parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.4 times as long as wide; arista with total width of hairing equal to width of flagellomere.

Thorax: 3 pairs fine presutural acrostichals, middle pair slightly longer, rows separated by nearly twice distance between acr and dc rows, with 4 irregular rows of fine hairs between; proepisternum with cluster of 3–7 fine hairs; 1 posthumeral seta; prealar seta 0.7 times length of post npl; dorsal surface of scutellum with 14–18 fine setulose hairs; 1+2 katapisternals, lower posterior seta 0.8 times length of upper; anepimeron with cluster of 4–6 fine, short hairs on dorsal margin. Notopleuron often with a few fine hairs posterior to post npl seta, and sometimes between setae.

Legs: Long and slender, especially f2 and t2, in large specimens (wing length 8.0

mm) mid femur and tibia each more than half wing length (0.53), in small specimens (wing length 4.5 mm) ratio drops to 0.4. f2 without ventral setae; f3 with about 4 av; t1 with strong pv just beyond middle; t2 with small pd and 2 pv; t3 with 1 av, 2 ad, and 3 pd.

Abdomen: 2.2 times as long as wide at 2nd tergite, strongly dorsoventrally compressed, apical segments not very swollen, hind marginal setae on 5th tergite as long as tergite; 3rd and 4th sternites (Fig. 42) much longer than wide (2.18–2.78 times as long); 5th sternite (Fig. 41) long, with base and processes equally long, the latter pointed at apices; lateral setae on processes short, none longer than length of processes, and none on the apical half of processes; setae on inner margins normal and short, only a few setae (at most 16) on basal part of sternite. 6th tergite bare. Surstylus (Figs 39 & 40) long, indented apically into 2 lobes, outer one longer and apically rounded, no microtrichia on basal half; 2 small flanges on inner margin basally; in profile strongly constricted at apical 2/3, then widening. Cercal plate short, with rounded apex. Pregonite (Fig. 45) wide basally, deeply divided into 2 lobes, anteroventral lobe wide with a short setula, posterodorsal lobe finger-like, with 1 long setula and some fine hairs; postgonite (Fig. 45) with a strong setula, apical part expanded. Phallus (Figs 43 & 44) with distiphallus long, acrophallus projecting well beyond paraphalli, which are short and strongly curved, apically pointing inwards in ventral view; basiphallus long, epiphallus sinuate and placed in apical third.

Body length 4.5–8.0 mm, wing length 4.5–8.0 mm.

Female:

Colour: Interfrontalia dark brown, becoming reddish anteriorly; ocellar triangle semi-shining immediately in front of ocellar tubercle, whitish dusted laterally behind; parafrontals and parafacials grey dusted. Antennae brown with light grey dust, base of flagellomere and apex of pedicel obscurely reddish. Palpi dark brown. Arista stem partly orange. Prementum dark reddish brown, semi-shining (proboscis damp in type). Thorax with ground colour dark brown, pleurae with sutures narrowly reddish, with shifting grey dust, humeri contrasting orange-yellow with grey dust which is more visible when viewed from above. Scutum, viewed from above, with dark lateral prst marks, joined in front immediately behind head, posterior margin only narrowly separated by grey dust from suture; median prst stripe light grey dusted, which disappears when angle of vision becomes more anteriorly orientated; a post wide dark crossband, which is uninterrupted, from wing base to wing base, the post margin reaches 3rd post dc seta. Notopleural area dark, becoming light grey dusted according to angle of vision. Scutellum mainly dark brown, only extreme tip reddish. Abdomen dirty reddish orange, with narrow dark brown hind margins; viewed from behind at a lower angle, anterior half of tergites appear darker reddish brown, posterior half increasingly grey dusted. 6th tergite visible, projecting beyond 5th, sclerotised and semi-shining brown. Legs with coxae orange, fore coxa paler, f1 mainly infuscated reddish brown, f2 paler in basal fifth, f3 orange with extreme apex weakly infuscated. Tarsi orange, infuscated brown. Wings with membrane pale orange-brown, veins orange-yellow.

Head: Interfrontalia at level of middle ors about 4.5 times as wide as each parafrontal. Eyes separated by about 0.3 times head width. Arista plumose, total width of hairing about 0.9 times width of flagellomere.

Thorax: The prst acr rows twice as widely separated from each other as they are from the dc rows, with 3–4 irregular rows of hairs between. 1+1 katepisternals (no trace of a hair-like lower p seta, as mentioned by Stein). Anepimeron with 5–8 fine hairs on dorsal margin. Notopleuron with a few extremely fine hairs behind or around post seta. Proepisternum with 3–5 fine hairs on disc. Pra seta 0.8–0.9 times length of post npl seta. Scutellum with 18–22 setulose hairs on disc.

Legs: t1 with 1 pv at middle, t2 with 2 pv, f3 with 3 av apically, and 1–2 short pv in middle, t3 with 1 av, 3 short ad and 2 longer pd.

Abdomen: Rather long, 0.58 times as wide (at hind margin of tergite 1+2), tapering from 3rd tergite to apex. Hind marginal setae of tergites not strong, rather short and decumbent, especially median setae, hind marginal setae on 4th and 5th tergites only semi-erect. Ovipositor as in Fig. 35.

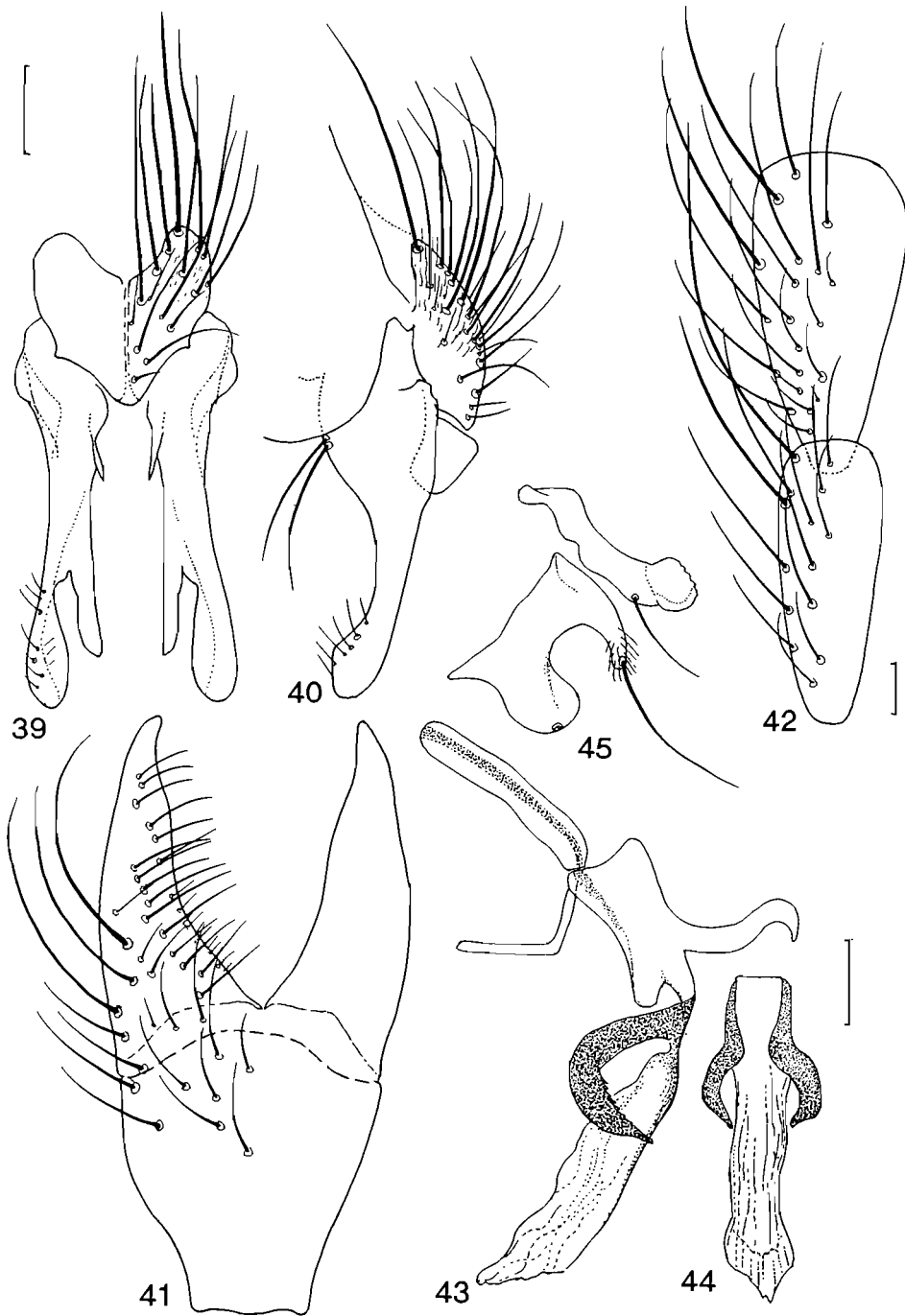
Body length 6.5 mm, wing length 5.5 mm.

Discussion: Emden (1941: 258) pointed out that Malloch's (1921: 424) fixation of *fascigera* Stein as type-species of *Taeniomyia* is invalid (not included in the first description), and that the type-species is *auricollis* Stein, 1918. Griffiths (1984: 377) treats *Taeniomyia* as a subgenus of *Emmesomyia* with the constitutive characters being the the absence of setae or hairs on the anepimeron (♂ ♀) and the presence of strong spines on the posterior margins of the 6th tergite and sternite (♀). There are no Afrotropical species referable to this segregate, and it appears to be confined to the New World.

Neither Malloch (1921 1924) nor Emden (1941 1951 1956) studied the holotype ♀ of *fascigera*. Malloch (1921) studied a female from Oshogbo, S. Nigeria, collected by Dr T. G. F. Mayer, which he identified as *fascigera*. I have studied this female (collected on 3.viii.1910); it agrees exactly with the holotype of *fascigera*, except that the proepisternum has 1 fine hair on 1 side only, the other being bare. Whether some hairs have been rubbed off, or the specimen is aberrant, it is impossible to say. At the time that Malloch studied the specimen, he was not aware presumably that any species possessed these hairs. Emden must also have studied this female, though he only mentioned *fascigera* briefly in the introduction and key (1941), and he must have assumed that the proepisternum was bare, and consequently described other specimens with distinct proepisternal hairs as *propleuralis*.

The type locality of *propleuralis* is Uganda; other material in BMNH named by Emden as *propleuralis* includes a headless ♂ from S. Nigeria, Oshogbo, 30.viii.1910, in house, collected by Dr T. G. F. Mayer (Emden 1951: 346); this ♂ has distinct proepisternal hairs, and another ♀ from Oshogbo, 1–13.x.1910, which carries a Malloch det. label: '*Taeniomyia* sp.' and an Emden det. label '*Emmesomyia propleuralis* Emden'. This ♀ (although in poor condition with all legs, except right hind one, missing) has distinct proepisternal hairs.

Emmesomyia fascigera is the only species of *Emmesomyia* in Africa with hairs on the proepisternum. It appears to be most closely related to *lupata* sp. n. through the



Figs 39–45. *Emmesomyia fascigera* (Stein), ♂ terminalia. 39. Cercal plate and surstyli, caudal view. 40. Ditto, lateral view. 41. 5th sternite. 42. 3rd and 4th sternites. 43. Phallus, lateral view. 44. Distiphallus, ventral view. 45. Gonites.

rounded apex of the cercal plate, the rather short setula on postgonite, situated towards the rounded apex of the gonite, and the elongated acrophallus projecting well beyond the paraphalli.

Distribution: The known distribution of *fascigera* ranges from West to East Africa, mainly between latitudes 10°N and 10°S, with two records (Angola and Malawi) reaching to about 15°S. Emden (1956: 529) records it (as *propleuralis*) from Zaïre and Rwanda.

***Emmesomyia lupata* sp. n.**

Figs 4, 32–34, 46–52

Holotype: ANGOLA: 'Holotype' [circular white label with red perimeter]; 'ANGOLA (A28) / 3 mls. SW Salazar / 15.iii.1972' [rectangular white printed label]; 'Southern / African Exp. / B.M. 1972–1' [rectangular white printed label]; 'leaf litter / in coffee forest' [rectangular white printed label]; 'HOLOTYPE ♂ / *Emmesomyia* / *lupata* / D. M. Ackland' [rectangular white printed & written label with red perimeter]. In good condition, abdomen dissected and mounted in glycerol in a plastic tube on staging pin. In BMNH.

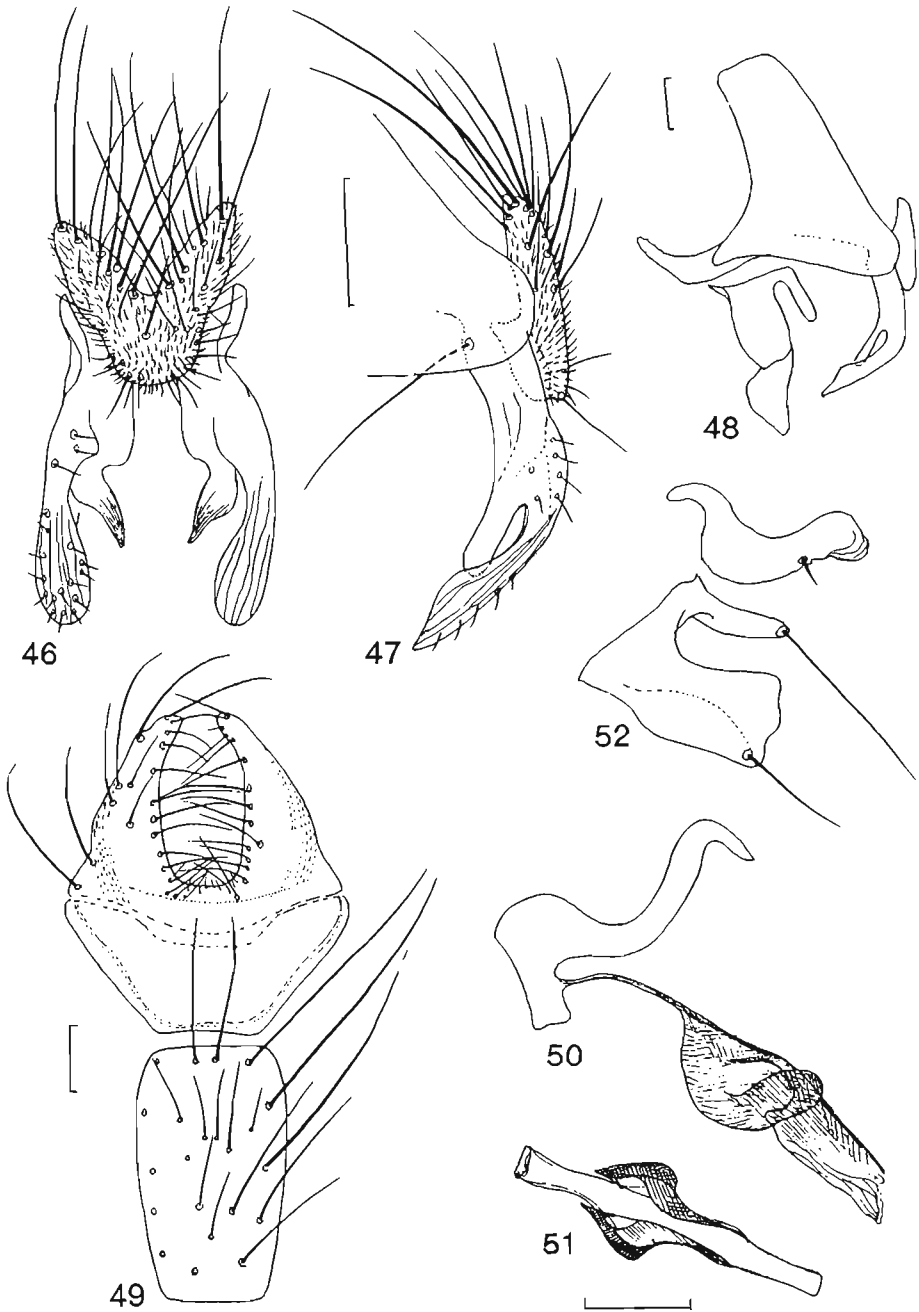
Paratypes: ANGOLA (A28): 2 ♀, Salazar, I. I. A. A., 9–15.iii.1972, Southern African Exp., BM 1972–1. One paratype with abdomen dissected and mounted in glycerol in a plastic tube on staging pin. In BMNH.

Other material examined: SOUTH AFRICA: *Cape*: 18 ♀, Storms River, 31.xii.1953, F. Zumpt (BMNH); 1 ♀, Storms River Pass, Tsitsikama Range, 12–13.x.1959, B. & P. Stuckenberg, indigenous forest (NMSA); 1 ♀, Garden of Eden Forest, Knysna Dist., 10.x.1959, B. & P. Stuckenberg (NMSA); 6 ♀, Groot River Pass, nr Plettenberg Bay, 11.x.1959, B. & P. Stuckenberg, indigenous forest (NMSA).

Etymology: *L. lupatus* =toothed. Refers to the projecting, tooth-like, inner process of the surstylus.

Male:

Colour: Head: Interfrontalia, parafrontalia and genae black in ground colour with grey dust; occiput darkened on upper half. Antennae with flagellomere dark brown with greyish dust, basal segments obscurely reddish brown in parts, stem of arista orange-brown. Palpi dark brown; prementum brown, partly semi-shining. Thorax dark brown to paler reddish brown translucent, especially humeri and on pleurae, the latter with thinly grey dusted areas which are shifting; scutum viewed from above (slightly from in front) dark brownish black except for humeri, notopleuron, prescutellar area and a small prst median spot which are light grey dusted; viewed from behind (45° angle) prst area becomes grey dusted and 2 squarish lateral dark marks appear, joined behind head; at a lower angle the dark post crossband appears very light brownish grey dusted; from a low angle in front almost entire notum appears dark brown and semi-shining; scutellum completely dark brown, with light bronzy brown dusting when viewed from behind. Abdomen orange-yellow, tergite 1+2 lighter, 3rd to 5th tergites brownish darkened, with grey dust, viewed from behind with moderately wide dark brown dusted mid-stripe (as wide as f3) which widens out along anterior margins of tergites where it diffuses into lighter brown



Figs 46–52. *Emmesomyia lupata* sp. n., ♂ terminalia (Holotype). 46–47. Cercal plate and surstyli. 46. Caudal view. 47. Lateral view. 48. Hypopygium, lateral view. 49. 4th and 5th sternites. 50. Phallus, lateral view. 51. Distiphallus, ventral view. 52. Gonites.

dust, posterior half of tergites lighter grey dusted; accessory sclerite on left side of abdomen shining reddish brown. Wing membrane smoky yellowish brown tinged; wing base orange-brown tinged; squamae whitish, contrasting with wing base; halteres yellow. Fore coxae orange with grey dust; mid and hind coxae infuscated brownish; femora brown and semi-shining, base of f3 clear yellow in basal half; tibiae brown, knees obscurely orange; tarsi brown.

Head: Parafrontalia contiguous in upper half, at level of lunule only 0.5 times width of flagellomere; eyes separated by less than diameter of anterior ocellus; genae below lowest point of eye margin 0.12 times eye height; peristomal margin in lateral view slightly produced and so nearly level with parafrontal angle. 2 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.25 times as long as wide; arista plumose, total width of hairing nearly as long as width of flagellomere (0.9).

Thorax: 3 pairs prst acr, middle pair the longest, rows separated by 1.5 times distance between acr and dc rows, with only 1–2 irregular rows of fine hairs inbetween; 1 posthumeral seta, with practically no hairs between ph and prst dc, or between ph and notopleuron; prealar seta 0.8 times length of post npl; dorsal surface of scutellum rather convex, with only 2–4 setulose hairs laterally, bare on middle part; 1+2 katepisternals, lower posterior seta 0.8 times length of upper; anepimeron with at least 3 hairs on dorsal margin (difficult to ascertain the number as specimen pinned through pleurae; ♀ ♀ have 4–6 hairs), proepisternum bare; anepisternum with a developed upper anterior setula.

Legs: Mid and hind femora and tibiae rather long and slender, f3 1.6 times as long as t1. f2 with 1–2 basal pv; f3 with 6 av, 1 long median pv, and a few short apical pv; t1 with a strong median pv; t2 with 1 short pd and 2 longer p or pv; t3 with 1 av, 3 ad, 2 pd. Pulvilli on t1 slightly shorter than length of 5th tarsal segment.

Abdomen: Dorsoventrally compressed, in profile hypopygium (Fig. 48) not strongly swollen; length very slightly longer than thorax, parallel-sided from hind margin of tergite 1+2 to hind margin of 4th tergite; segments 2–5 of equal length, 3rd tergite twice as wide as long, with longer hind marginal setae laterally, short medially, 4th tergite with about 4 hind marginal setae, 5th tergite with about 5 strong hind marginal setae which are nearly as long as 5th tergite, tergite 7+8 with 2 equally long setae; discal setulae on tergite 1+2 erect, on remaining tergites depressed; sternites without long setae. 6th tergite bare. 4th sternite (Fig. 49) about twice as long as wide, parallel-sided, with 4–6 lateral setae; 5th sternite (Fig. 49) with processes a little longer than basal part, rather sparse lateral setae (about 6, none longer than process), inner margins with normal setae along entire length, shorter but closer together at base. Surstylus (Figs 46 & 47) of distinctive shape, inner lobe in caudal view tooth-like, pointed, short, medially placed and projecting inwards; outer lobe much longer, striated, with distinct strong sensory spinules, in lateral view strongly angled, and with only 1 very long basoventral seta. Cercal plate with wide rounded apical margin, dorsal margin indented, with 4–6 equally long setae; apical margin has some strong spicules and dense short hairs. Pregonite (Fig. 52) wide at base, strongly indented into 2 lobes, posterodorsal one finger-like with long setula, anteroventral one wide (slightly wider apically than near base) with a shorter setula; postgonite (Fig. 52) of

distinctive shape, apically rounded, rather short and sinuate, with very short but strong setula on anteroventral margin towards apex. Phallus (Figs 51 & 52) with distiphallus long, apical part as long as paraphalli, slender in ventral view; basiphallus (Fig. 50) with slender, sinuate and rather long epiphallus.

Body length 5.5 mm, wing length 5.0 mm.

Female:

Colour: Interfrontalia black, upper part of parafrontalia grey dusted but when viewed from in front becoming dark as interfrontalia, ocellar triangle shining; prementum rather swollen, 2 times as long as wide; occiput grey dusted below, black in upper half, rather shining behind eyes when viewed from behind, with 2 light grey dusted patches on either side of postocellar setae, which arise from a dark spot. Thorax similar to ♂, humeri and notopleuron often lighter reddish orange or even light orange, contrasting with darker surrounding area. Abdomen largely orange-red, distinctly shining, basal half of tergites brownish red, with median brown stripe which is widened basally, hind margins of tergites very narrowly blackish brown; 6th tergite shining blackish brown. Legs as in ♂, with f2 brownish infuscated, f3 paler basally.

Head: Interfrontalia at level of middle ors about 5 times as wide as each parafrontal; eyes separated by about 0.3–0.32 times head width; parafrontalia widening anteriorly to about 0.8 times width of flagellomere. Parafrontal setae differentiated into 3 pairs of ors and 2 pairs of ori; crossed interfrontal setae present and sometimes rather strong.

Thorax: (Fig. 4). 1+1 katapisternals, lower posterior seta absent (sometimes a fine short hair present).

Abdomen: Ovipositor (Figs 32–34) with intersegmental membrane between 7th and 8th segments longer than *fascigera* and *sublongipes*. 6th tergite strongly sclerotised, not or only partly retracted into abdomen, with long multiserial setae and setulose hairs on hind and lateral margins; 7th tergite with single row of setae; posterior half of tergite sclerotised medially, lateral anterior sclerotised arms longer than median sclerotised part, apparently longer than *fascigera* or *sublongipes*; lateral margins of tergite with 4–6 short setulae. 8th sternite paired, bare; 8th tergite represented as elongated paired bare strips with narrow median sclerotised strip.

Body length 4.5–6.0 mm, wing length 4.5–6.0 mm.

Discussion: The ♂ holotype from Salazar (Angola) has very distinctive genitalia. Four ♀ caught near Salazar (at the same locality, but not exactly the same data as the holotype), belong to three species, all belonging to the *fascigera* group. Two of these females have a bare proepisternum, and mid and hind femora infuscated as in the ♂ holotype of *lupata*; I consider them conspecific and have made them paratypes. One of the other females has a few hairs on the proepisternum, but in every other character agrees with the paratypes of *lupata*; as no males of *fascigera* are so far known from Angola, I tentatively identify this specimen as *lupata*. The remaining female must belong to a different species, as it possesses a completely grey dusted 6th tergite and mainly orange-yellow legs with little infuscation; the dorsal surface of the abdomen is also mainly grey dusted and not shining, as is the apical half of the

scutellum. I do not propose to describe this latter species as new until associated males become available.

The females of *lupata* from Cape Province of South Africa, listed under 'Other material examined', differ from the Angolan ♀♀ in having the legs more orange-yellow, femora only at extreme apex darkened brown, pleurae more orange, and abdomen basally orange. In all other character states they agree with the characters given for *lupata*. In the absence of any associated males from the Cape localities it is impossible to say if they represent a different species.

Distribution: This species is only known at present from Angola and the Cape Province of South Africa.

E. maculithorax Section

♂ ♀ : Anepimeron with 1 setula. ♂: surstylus with about 4 setae on basoventral surface, postgonite without setula, pregonite only very weakly divided into 2 lobes, 5th sternite without spinose setae at base of processes. ♀ : ovipositor short, species larviporous, laying 3rd instar larvae.

This section includes *maculithorax* (Stein) and *ignobilis* (Stein).

Emmesomyia maculithorax (Stein)

Figs 1, 53–59, 60–64, 70–72

Hydrophoria maculithorax Stein, 1913: 552.

Taeniomyia maculithorax (Stein): Stein, 1919: 150; Malloch, 1921: 424.

Emmesomyia maculithorax (Stein): Malloch, 1924: 260, 261; Emden, 1941: 259; Emden, 1951: 344; Paterson, 1956: 164; Pont, 1969: 2.

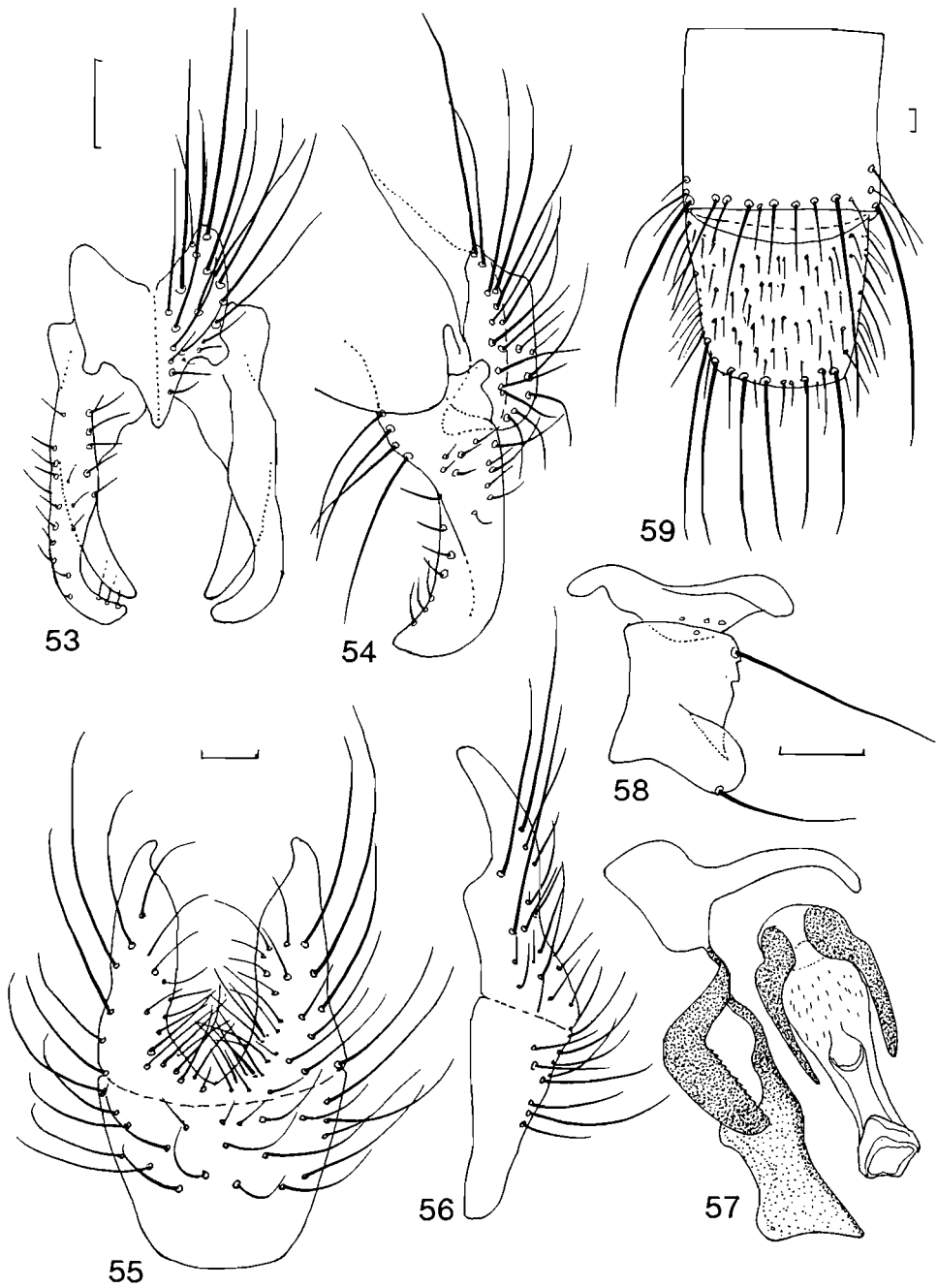
Emmesomyia nigrolutea Malloch, 1921: 423; Malloch, 1924: 260; Emden, 1941: 259; Emden, 1951: 349.

Syn. n.

Syntypes: 10 ♀, *Hydrophoria maculithorax*, Stein, Kilimandjaro, x.1905. These syntypes were originally all in the Hungarian Natural History Museum, Budapest. 4 ♀ were sent to Emden in exchange, prior to 1951 (Emden 1951: 344), and are now in BMNH (details listed below). The remaining 6 ♀ syntypes were presumably destroyed in 1956. Data for the 4 ♀ syntypes are: 'Syntype' [white circular printed label with blue perimeter]; 'Kilima / ndjaro' [white rectangular printed label]; 'Africa or / Katona 904' [white printed rectangular label]; 'maculithorax / Typus Stein / det. P. Stein' [white printed and written rectangular label]; 'Brit. Mus. / 1949–630' [white printed rectangular label]. Reviewed during present study. In BMNH.

Holotype ♀ : *Emmesomyia nigrolutea* Malloch: 'Holotype' [white printed circular label with red perimeter]; 'Abyssinia / Higo Samula / 30.x.11 / R. J. Stordy / 1912–329' [white printed rectangular label]; 'Emmesomyia / nigrolutea / Mall. Type' [white rectangular pencil label]. Front right leg and right tibia and tarsus missing, in rather dirty condition. In BMNH, reviewed during present study.

Other material examined: ETHIOPIA: 1 ♂, Wachacha Ravine, nr. Addis Ababa, 9.ix.1926, H. Scott, c. 8000 ft (BMNH). TANZANIA: 1 ♂ 6 ♀, Kilimandjaro, 28–30.i.1959, E. Lindner, 2700 m (SMNS). KENYA: Aberdare Range: 2 ♂, Nyeri Track, x.1934, J. Ford, 10500–11000 ft (BMNH); 3 ♂ 1 ♀, Mt Kinangop, 17.x.1934, F. W. Edwards, 8–9000ft, cedar forest (BMNH); 2 ♂, Mt Kinangop, 28.x.1934, J.



Figs 53–59. *Emmesomyia maculithorax* (Stein), ♂ terminalia (Kilimandjaro). 53–54. Cercal plate and surstyli. 53. Caudal view. 54. Lateral view. 55. 5th sternite. 56. Ditto, lateral view. 57. Phallus, lateral view, and distiphallus, ventral view. 58. Gonites. 59. 4th and 5th tergites.

Ford, 13000 ft, *Senecio brassicaeformis* or *S. aberdarica* (BMNH); 2 ♂ 3 ♀, Mt Kinangop, 25.x.1934, F. W. Edwards, 9000ft (BMNH); 2 ♀, Katamayo, x.1934, F. W. Edwards, 8000ft (BMNH); 1 ♀, Katamayo, iii.1942, van Someren (BMNH); 2 ♂ 1 ♀, Mt Elgon, ii.1935, F. W. Edwards, 8500 ft, forest zone (BMNH); 2 ♂, Mt Elgon, ii.1935, F. W. Edwards, 10500–11500 ft, heath zone, on *Senecio elgonensis* (BMNH); 1 ♀, Kijabe, vii.1930, van Someren; 1 ♂, Mt Kenya, Kathita river, 12.viii.1949, J. A. Riley, 9990 ft (BMNH); 1 ♂ 1 ♀, Nato Moru, 31.viii.1949, J. A. Riley, 9000 ft (BMNH); 1 ♀, Embu, 18.ii.1914, G. St. Orde Brown (BMNH); 2 ♀, Meru, xii.1970, A. E. Stubbs, 5–7000 ft (BMNH). UGANDA: Ruwenzori Range: 3 ♂ 2 ♀, Namwamba Valley, xii.1934–i.1935, F. W. Edwards, 6500ft (BMNH); 1 ♀, Namwamba Valley, xii.1934–i.1935, E. G. Gibbons, 11000 ft (BMNH); 4 ♂, Bwamba Valley, vii.1945, van Someren (BMNH); 2 ♂, Mt Karangora, xii.1934–i.1935, F. W. Edwards, 9900 ft (BMNH); 3 ♀, Nyamgasani Valley, xii.1934–i.1935, D. R. Buxton, 8–9000 ft (BMNH); 1 ♀, W. Ruwenzori, vii.1945, van Someren, 6000 ft (BMNH); 1 ♂, Kigezi Dist., 2–4.xi.1964, R. W. Crosskey, 8170 ft, inpenetr. forest (BMNH); 1 ♀, Mt Elgon, 15.i.1955, H. C. Williams (BMNH); 1 ♀, Mt Elgon, Bulambulu, viii.1935, J. Ford, 9500 ft (BMNH); 2 ♂ 2 ♀, Nyinabitaba, 7–13.vii.1952, D. S. Fletcher, 8650 ft (BMNH); 1 ♂, Semliki Forest, 22.viii.–3.ix.1952, D. S. Fletcher, 2850 ft (BMNH); 1 ♀, Misigo, 2–3.viii.1952, D. S. Fletcher, 8550 ft (BMNH). MALAWI: 1 ♀, Zomba Plateau, Chingwe's Hole, SE1535AD, 12–13.iii.1987, J. G. H. & A. Londt, Malaise trap (NMSA). NIGERIA: 1 ♀, N.E. State, Ngel Nyaki, 31.iii.1970, J. T. Medlar 5500 ft (BMNH); 11 ♀, Mambilla Plateau, Ngel Nyaki, 28.xi.–3.xii.1968, J. C. Deeming, montane forest, c. 5500 ft, uv light (NMWC).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae dark in ground colour with light grey dust. Antennae dark brown with grey dust. Palpi dark brown; mentum reddish brown, somewhat shining. Thorax (Fig. 1) dark in ground colour with shifting grey dust; scutum, viewed from above, with 2 dark brownish black prst spots, more or less quadrilateral in shape, narrowly joined behind head, but posteriorly separated from suture by a narrow grey dusted strip; post crossband very narrowly interrupted by grey dusted stripe along dc setae, hind margin indented with grey dust at 2nd sa seta and at 2nd dc seta; humeri, notopleuron and rest of scutum light grey dusted, which appears denser as viewpoint is more caudal, but from a low angle in front most of scutum dark; pleurae grey dusted, more intense from behind; scutellum with basal half to two-thirds dark brown, apical third grey dusted, disc rather bronzy brown from some angles. Abdomen mainly dark in ground colour, only bases of tergites laterally obscurely reddish; viewed from above mainly dark, but when viewed obliquely from behind the tergites appear grey dusted, 2nd to 5th tergites each with a brownish inverted triangular mark and a darker narrow mid-stripe on all tergites; sternites with yellowish margins; 5th sternite mainly orange-yellow; hypopygium dark. Wing membrane orange-brown tinged, extreme wing base and stem vein paler whitish; squamae pale creamy white; halteres orange-tinged with paler stem. Coxae obscurely orange, infuscated with grey dust; femora mainly infuscated brown, obscurely orange at base (f1) or with basal third yellowish (f2 and f3); tibiae orange, infuscated brownish; tarsi reddish brown.

Head: Parafrontalia linear at narrowest point; eyes separated by about diameter of anterior ocellus; genae below lowest point of eye margin about 0.15 times eye height. 4–5 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere about 2.8 times as long as wide; arista with total width of hairing about 0.3 times width of flagellomere, ventral hairs distinctly shorter than dorsal ones.

Thorax: 2–4 pairs prst acr (hardly differentiated from 3–4 rows of hairs between rows) and outer acr setae twice as widely separated from each other as from dc rows; 1 posthumeral seta; prealar seta 0.8 times length of post npl; dorsal surface of scutellum with about 26–34 discal setulose hairs covering most of disc; 1+2 katepisternals, lower p seta 0.9 times length of upper; anepimeron with 1 setula; anepisternum with a developed upper anterior setula.

Legs: f2 with 4 long v setae on basal half; f3 with about 7 av on whole length, 3–4 pv and some shorter pv apicals; t1 with a long median pv seta; t2 sometimes with a very short ad at apical third, 1 pd and 2 p setae; t3 with 1 av, 3 ad and 2 pd.

Abdomen: Rather long and slender, parallel-sided, about 3.1 times as long as wide at 3rd tergite, dorsoventrally compressed, 3rd and 4th tergites slightly longer than wide, lateral setae on hind margins of tergites rather long and semi-erect, about 6 hind marginal setae on 5th tergite (Fig 59) which are all equally long (nearly as long as tergite); 4th sternite twice as long as wide, disc with short erect setulae; 5th sternite (Figs 55 & 56) with processes slightly longer than base (1.3 times), apically pointed, with lateral setae rather sparse and not longer than processes; setae on inner margins of processes fine (not spinose) and denser towards base; surstylus (Figs 53 & 54) with both apical lobes curved inwards, with about 4 long, basoventral setae; cerci with short pointed apex, about as long as wide. Pregonite (Fig. 58) not or only slightly indented on apical margin, anteroventral setula shorter than posterodorsal one; postgonite without setula. Phallus (Fig. 57) with paraphalli about half length of distal section; basiphallus short with long slender epiphallus.

Body length 6.0–7.0 mm, wing length 6.0–7.0 mm.

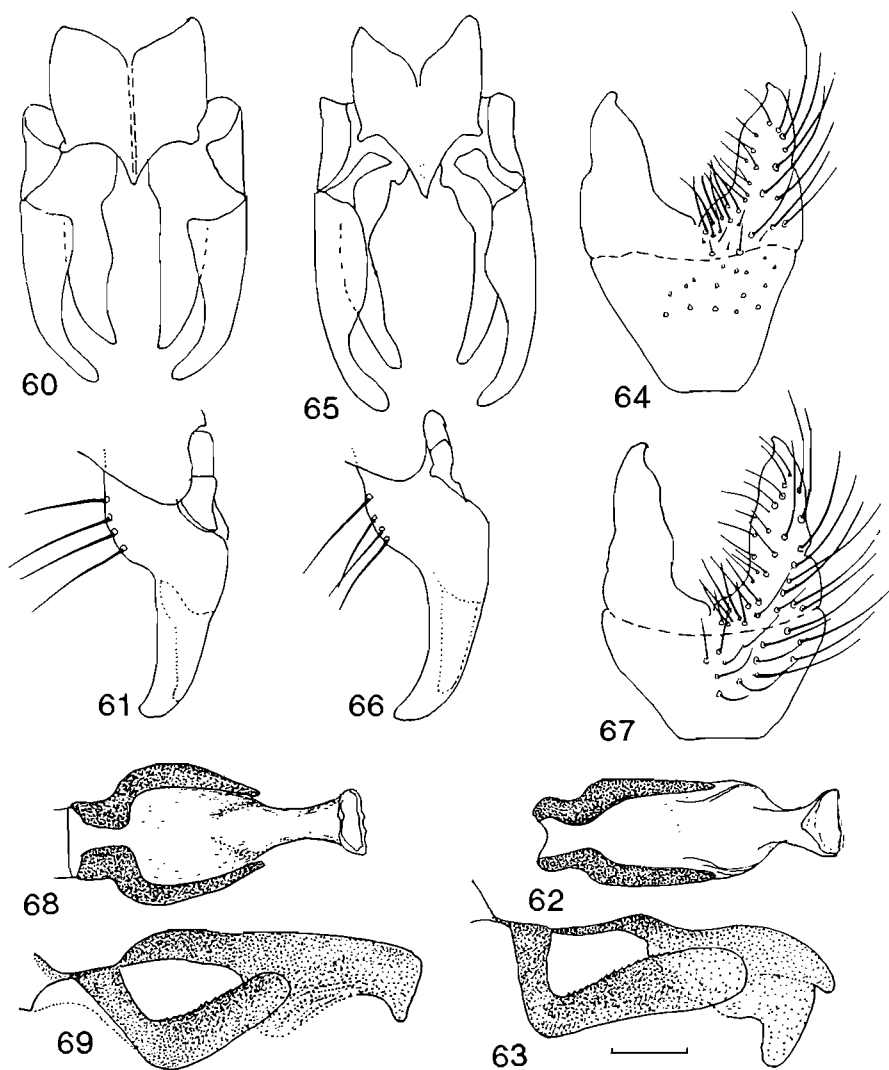
Female:

Colour: Interfrontalia obscurely or more extensively orange on anterior margin. Thorax (Fig. 1) with pattern as in male, dark post band sometimes narrowly interrupted on dc setae by grey dust. Abdomen with some lateral shining and shifting patches, median stripe wider than in ♂.

Head: Interfrontalia at level of middle ors about 4 times as wide as each parafrontal; eyes separated by about 0.45 times total head width. Parafrontal setae differentiated into 3 pairs of ors and 3 or 4 pairs of ori; crossed interfrontal setae present. 1(2)+2 katepisternals, ventral posterior seta 0.4 times as long as dorsal.

Abdomen: 5th and 6th tergites with long strong semi-erect hind marginal setae; ovipositor (Figs 70–72) short, intersegmental membranes very short, from hind margin of 5th tergite to cerci only about 1/3 length of preceding part of abdomen; 6th and 7th spiracles close together on anterior margin of 6th tergite; 7th tergite complete, with normal setae and hairs; 7th sternite small. 8th tergite bare, fused to 10th tergite; 8th sternite represented by 2 small setose pads; cerci short and rounded, with long sensory setulae.

Body length 6.0–7.0 mm, wing length 6.0–7.0 mm.



Figs 60–69. *Emmesomyia* species, male terminalia. 60–64. *E. maculithorax* (Stein), ♂ terminalia (Ethiopia). 60–61. Cercal plate and surstyli. 60. Caudal view. 61. Ditto, lateral view. 62. Distiphallus, ventral view. 63. Ditto, lateral view. 64. 5th sternite. 65–69. *E. ignobilis* (Stein), ♂ terminalia (Natal). 65–66. Cercal plate and surstyli. 65. Caudal view. 66. Lateral view. 67. Distiphallus, ventral view. 68. Distiphallus, lateral view. 69. Distiphallus, ventral view.

Discussion: Malloch (1924: 260) in his key to African *Emmesomyia*, separated females of *nigrolutea* and *maculithorax* by the legs of the former being yellow with

the apices of all femora narrowly black; in *maculithorax* the femora were more extensively infuscated, or only basally yellow. In the original description of *nigrolutea* Malloch listed the differences from *maculithorax* as the colour of the legs and bristling of the hind tibia; the hind tibiae were stated to have 2 pd, 1 av and 3 ad setae. In Stein's description (1913: 552) of *maculithorax*, the hind tibiae were stated to have 2–3 ad, 1 av and 2 dorsals (aussen). I do not consider either of these characters to be significant; the specimens I have examined show a gradual range through the colour differences, and occasionally specimens are missing the small lower ad seta on the hind tibia.

Emden (1951) identified material from Kenya and Uganda as *nigrolutea*, and commented on the variation of leg colour. He also added some extra characters to his 1941 key (1951: 343–4), as a result of examining female paratypes of *maculithorax* (now in BMNH). In addition to the colour of the femora originally used to separate these species, he added for *nigrolutea*: hair of arista longer, that of ventral surface longer than basal diameter of arista; and for *maculithorax* he added: hair of arista very short, the ventral hairs not longer than basal diameter of arista. In the syntypes the ventral hairs (which are always shorter than the dorsal ones) are in some specimens abraded, and I do not find these characters convincing.

Neither Emden nor Malloch recorded any males of *nigrolutea* from Ethiopia. In a search through the unidentified BMNH collection, I found 1 ♂ from Addis Ababa, collected in 1926 by H. Scott. This was not mentioned in Emden's 1941 paper on the results of Scott's Expedition. This male has genitalia (Figs 60–64) very similar to *maculithorax* from Tanzania, differing only in having shorter and wider surstyli, shorter 5th sternite processes, and slightly longer paraphalli (Fig. 63). I do not consider that these small differences warrant *nigrolutea* being regarded as a distinct species, and it is thus newly synonymised with *maculithorax*. Further material may show these differences to be constant.

The most southerly record for *maculithorax* is the single ♀ from Malawi, which has mainly dark palpi (only obscurely pale brown basally); this ♀ is rather teneral, and is not in general much darker than specimens of *ignobilis* from Zimbabwe. This lends support to the possibility that *ignobilis*, which is structurally the same in both sexes as *maculithorax*, may be a paler southern form, with a gradual transition across its range. For the moment I propose to treat *ignobilis* as a distinct species.

Distribution: The range of *E. maculithorax* extends from Nigeria in the west to Ethiopia (10°N), and southwards to Malawi (15°S). *E. ignobilis* does not appear to extend further north than Zimbabwe.

Emmesomyia ignobilis (Stein)

Figs 2, 65–69, 73

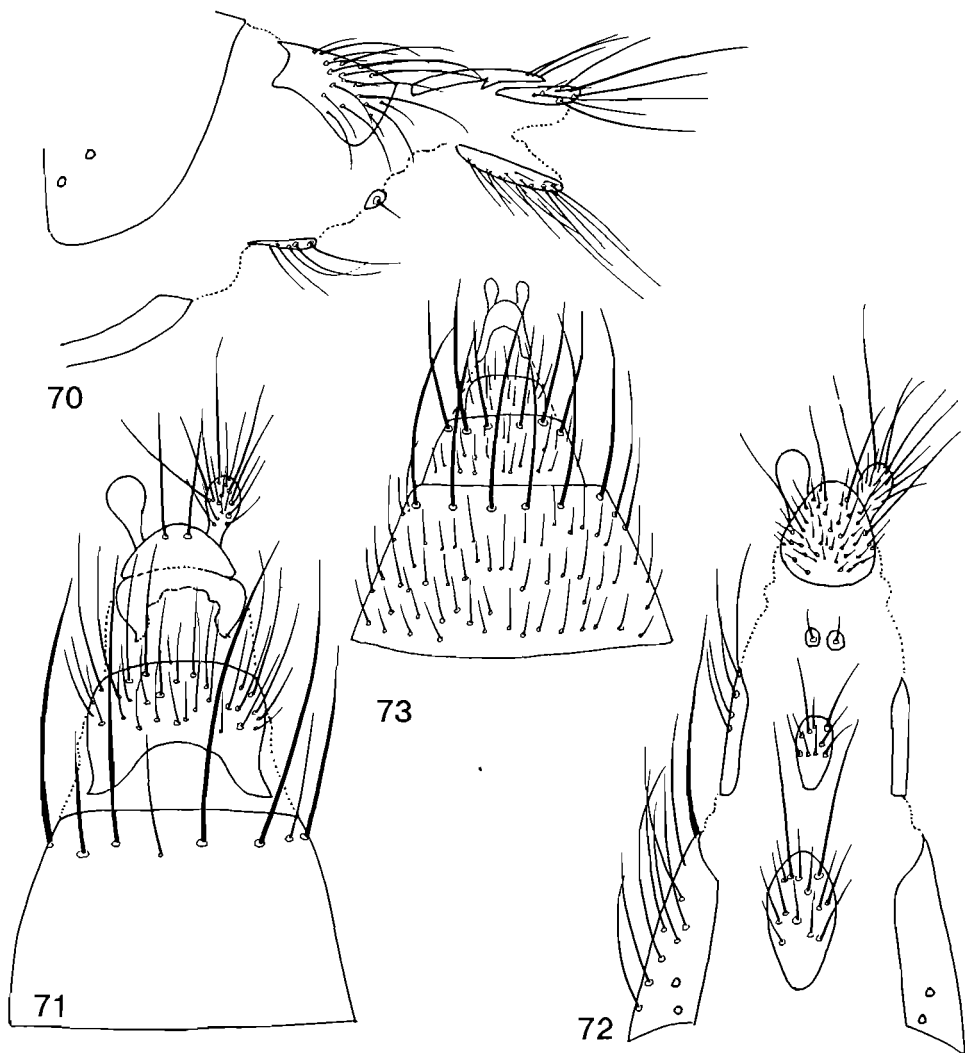
Hydrophoria ignobilis Stein, 1913: 553.

Taeniomyia ignobilis (Stein): Stein, 1919: 150.

Rhodesina ignobilis Malloch, 1921: 424. Synonymy after Emden, 1941: 258. Junior homonym, *preocc. ignobilis* Stein, 1913.

Emmesomyia ignobilis (Stein): Malloch, 1924: 260; Emden, 1941: 258; Emden, 1951: 349.

Syntypes: *Hydrophoria ignobilis* Stein: Described from 3 ♂ 2 ♀, type locality S. Rhodesia (Zimbabwe): Chirinda Forest. The syntypes were probably in the



Figs 70–73. *Emmesomyia* species, ♀ ovipositors. 70–72. *E. maculithorax* (Stein). 70. Lateral view (Kilimandjaro). 71. Dorsal view (Mt Kenya). 72. Ventral view (Mt Kenya). 73. *E. ignobilis* (Stein), dorsal view (Chirinda Forest).

Hungarian Natural History Museum, Budapest, and destroyed in 1956.

Holotype ♀ : *Rhodesina ignobilis* Malloch: 'Rhodesia / Chirinda For. / 3800 ft, 10.xii.1910 / C. F. M. Swynnerton / on cow pat' [rectangular white handwritten label]; 'Pres. by / Imp. Bur. Ent. / 1921–240' [rectangular white printed label]; 'Rhodesina / swynnertoni / Mall. Type' [rectangular white pencilled label]; 'Type of Rhodesina / ignobilis Mall. / van Emden det 1940' [white rectangular handwritten and printed label]; 'Holotype' [circular white label with red perimeter]. All appendages present; scutum damaged by pin, some setae abraded (anepimeral setulae detached). Reviewed during present study. In BMNH.

Other material examined: ZIMBABWE: 1 ♀, N. Vumba, 28.x.1964, D. Cookson

(BMNH); 1 ♀, Inyanga, 31.i.1939, A. Cuthbertson (BMNH); 1 ♀, Vumba Mts, Umtali Dist., ii.1938, A. Cuthbertson (BMNH); 1 ♀, Chirinda Forest, Mt Selinda, 25.i.1955, B. R. S. & P. G. (BMNH); 1 ♀, Mt Chirinda, 10.xii.1910, C. F. M. Swynnerton, 3800ft (BMNH). SOUTH AFRICA: *Cape*: 1 ♀, Storms River, 31.xii.1953, F. Zumpt (BMNH); 1 ♂ 1 ♀, Storms River Pass, Tsitsikama Range, E. Cape, 12–13.x.1959, B. & P. Stuckenberg, indigenous forest (NMSA); 1 ♂, Port St Johns Dist., 16–17.x.1959, B. & P. Stuckenberg, coastal forest (NMSA); 1 ♀, Port St Johns, 20–25.xi.1961, B. & P. Stuckenberg (NMSA); 1 ♀, #6, 2km S of Grahamstown, 33°20'S:26°31'E, Dassie Krantz Forest, 20.xi.1990, Londt & Whittington, 800m (NMSA); 2 ♀, Hogsback north of Alice, E. Cape, 2–3.xi.1964, B. & P. Stuckenberg (NMSA). *Natal*: 2 ♀, Ingeli Forest, 16.ii.1954, F. Zumpt (BMNH); 3 ♀, Ingeli Forest, Kokstad Dist., Griqualand East, 17.x.1959, B. & P. Stuckenberg (NMSA); 1 ♀, Lions Bush, Nottingham Rd, 9.viii.1964, B. Stuckenberg (BMNH); 1 ♂ 1 ♀, Karkloof, 2930 AB, 22.xii.1982, J. G. H. Londt (NMSA); 1 ♂ 1 ♀, Drakensberg, Giants Castle Res., 5800 ft., 18–23.ix.1961 (NMSA); 3 ♂, Royal Natal National Park, 11.ix.1962, B. & P. Stuckenberg, from montane forest, 1530 m (NMSA); 1 ♂, same locality, 13.ix.1963, B. & P. Stuckenberg, 1500 m (NMSA); 1 ♀, Nkandhla Forest Res., 18°43'22"S:31°08'08"E, 27.i.1988, J. G. H. Londt, 1150 m, mistbelt mixed forest (NMSA); 1 ♀, Drakensberg, Cathedral Peak Forestry Reserve, Indumeni Forest, iii.1959, B. R. & P. J. Stuckenberg, c. 5000ft (NMSA); 1 ♀, Town Bush, Pietermaritzburg, 29.x.1971, M. E. Irwin (NMSA). *Transvaal*: 1 ♀, Magoebaskloof, i.1961, F. Zumpt (BMNH); 1 ♀, Zoutpansberg Range, 23°00'S:30°14'E, Entabeni Forestry Station, Vera Kop Forest, 15.i.1974, Stuckenberg, c. 1350m (NMSA); 1 ♀, Gladdespruit River, headwaters at Kaapsehoop, 2530 DB, 3.xi.1970, Stuckenberg, 5000 ft, grassland and gallery forest (NMSA).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae dark brown in ground colour, with grey dust. Antennae: flagellomere brown with greyish dust, basal segments obscurely reddish. Palpi yellow; prementum light brown, very thinly dusted in middle. Thorax (Fig. 2) dark brown to brown, with shifting grey dusting, pleurae somewhat translucent reddish brown, especially on sutures; viewed from above the extreme anterior margin behind head brown, with 2 short dark extensions between prst acr and dc rows, these squarish and not passing 1st prst dc; between 2nd ph and 2nd prst dc setae there is a dark roundish spot, rest of prst area grey dusted, including humeri; dark crossband behind suture, paler brown medially, hind margin not passing 2nd post dc; from a low angle behind, almost all prst area appears light grey dusted, prst spots appear very light brown; viewed from in front, most of scutum appears increasingly dull brown as angle becomes more oblique, only prescutellar area remaining grey dusted; scutellum brown in ground colour, light grey dusted. Abdomen translucent orange basally, with greyish dust and narrow dark mid-stripe; 5th sternite orange. Wing membrane light brownish orange-tinged; wing base as membrane but stem vein lighter; squamae whitish, lower squamae with slightly brownish border; halteres orange. All coxae, femora, tibiae and tarsi orange-yellow, tarsi slightly darker.

Head: Parafrontalia contiguous on upper half of frons, at level of lunule 0.75 times width of flagellomere, parafacial opposite flagellomere very narrow, not visible in lateral view; eyes separated by less than width of an ocellus; genae below lowest point of eye margin very narrow, 0.1 times eye height; peristomal margin in lateral view well behind level of parafrontal angle. 4 pairs of parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere rather long, 3 times as long as wide; arista with total width of hairing only 0.4–0.5 times width of flagellomere.

Thorax: 3 pairs prst acr (middle pair longest), rows separated by more than distance between acr and dc rows (1.5 times), with 2–3 irregular hairs between rows; 1 posthumeral seta; prealar seta 0.8 times length of post npl; dorsal surface of scutellum with 18–22 setulose hairs, width at base 1.7 times length; 1+2 katepisternals, lower p seta 0.8 times length of upper; anepimeron with single setula on dorsal margin; anepisternum with an upper anterior setula.

Legs: f2 with 3–4 v at base; f3 with 5 av, 5 pv; t1 with a short ad, and longer pv; t2 with 1 pd, 2 p; t3 with 1 av, 3 ad, 2 pd.

Abdomen: 5th sternite (Fig. 67) and terminalia (Figs 65, 66, 68, 69) show no significant differences from *maculithorax*.

Body length 6.0–7.0 mm, wing length 6.0–7.0 mm.

Female:

Colour: Head: Interfrontalia orange-red on anterior half, dark behind; parafacials and genae partly orange, with grey dust. Thorax with scutum (Fig. 2) dark, grey dusted, humeri, notopleuron and pleurae largely orange with shifting grey dust; viewed from above prst and post dark markings similar to ♂, but lighter brown. Abdomen brown in ground colour, orange translucent at base, a wider median stripe than ♂, and lateral shifting marks, fore margins of tergites brown, hind margins narrowly dark brown.

Head: Interfrontalia at level of middle ors about 5 times as wide as each parafrontal; eyes separated by about 0.29–0.3 times total width of head. Parafrontal setae differentiated into 3 pairs of ors and 2 pairs of ori; crossed interfrontal setae present. 1+2 katepisternals, lower p seta 0.4 times length of upper.

Abdomen: 6th tergite dusted, narrow apically and with long strong erect hind marginal setae. Ovipositor (Fig. 73) identical to that of *maculithorax*.

Body length 5.5 mm, wing length 5.0 mm.

Discussion: Males from the Natal Drakensberg are darker, scutum with prst and post dark marks, prst area only light grey dusted in an extremely low angled view from behind; palpi slightly more orange-brown, femora lightly infuscated apically. Females from Natal have yellow palpi, orange humeri and paler legs. All these specimens agree in the structural characters given for *ignobilis*. I include them in *ignobilis* based on the yellow palpi.

The form of the 6th tergite of the *ignobilis* holotype (dusted, tapering, partly extruded, with strong semi-erect and long setae on the hind margin) can clearly be seen, and *ignobilis* certainly belongs to the *maculithorax* group, with short ovipositor and laying a large larva, and having a developed lower katepisternal seta, arista short

haired (total width of hairing not more than half width of flagellomere).

In the original description Malloch also drew attention to the possible synonymy of his *ignobilis* with Stein's *ignobilis*, and this synonymy was accepted by Emden (1951: 349). In Stein's original description the palpi of male *ignobilis* were stated to be yellow (and presumably the ♀ also), and the arista to be very short haired; in Malloch's description of *ignobilis* no mention is made of the palpal colour, but in the holotype they are clear yellow. This is the only species of African *Emmesomyia* known to me with clear yellow palpi and the aristae short haired.

In Emden's treatment of *ignobilis* (Emden, 1951: 349) he listed 5 ♂ (2 ♂, Uganda, Kilembe, 1 ♂, Uganda, Kyarumba, 1 ♂, S. Rhodesia, Umtali Dist., and 1 ♂, Port. East Africa, Melsetter dist.) which he stated had fuscous palpi, although Stein had described them as yellow. These males (with arista hairing almost as long as width of flagellomere), are in my opinion the previously unrecognised ♂♂ of *setinervis* Stein, and are included under that species. Neither Stein, Malloch nor Emden was aware that the minutely setulose wing vein R_{4+5} of female *setinervis* is a sexual character not present in the male. All females listed by Emden as *ignobilis* are correctly identified (yellow palpi, short ovipositors).

Distribution: From Zimbabwe southwards to the Cape (South Africa).

E. socia Section

♂ ♀ : anepimeron with 1 setula. ♂: 5th sternite with some spinose setae at base of processes, surstylus with about 4 setae on basoventral surface. ♀ : ovipositor long, species oviparous or larviparous, laying 1st or 2nd instar larvae.

The *E. socia* section includes the following eight Afrotropical species: *cincinnata* sp. n., *deemingi* sp. n., *micans* (Stein), *nudiloba* sp. n., *setinervis* (Stein), *tumida* sp. n., *natalia* Malloch, *marshalli* Emden.

It is possible that the section may be further divided into those with several rows of short spinose setulae on the posterior margin of the 7th tergite of the ♀ ovipositor (*deemingi*, *micans*, *setinervis*, *tumida*; ♀ ♀ of *cincinnata* and *nudiloba* unknown), and those with the posterior margin of the 7th tergite with only a single row of setulae (*natalia*; ♀ of *marshalli* unknown).

Three Japanese species (Suwa 1991), namely *flavitarsis* Suwa, *suwai* Ge & Fan, *kurahashii* Suwa, have short ovipositors (and apparently only a single row of setulae on the posterior margin of the 7th tergite) and are larviparous. Suwa (1991: 20) records finding a large 2nd instar larva in the abdomen of one specimen.

The ovipositor of *flavitarsis* (Suwa 1991: Figs 94 & 95) shows considerable similarity to that of *E. maculithorax* (Figs 70–72). In addition the ♂ genitalia of *flavitarsis* (Suwa 1971: Figs 15–19 & 71) and *maculithorax* (Figs 53–59) agree in the following: cercal plate not strongly produced, 5th sternite without spinose setulae at base of processes. It is possible that these species are closely related. The cercal plate and surstyli of *flavitarsis* also differ in general appearance from the other Japanese species of *Emmesomyia*.

E. megastigma Ma, Mou & Fan, is the only Japanese species of *Emmesomyia* with a group of several hairs or setulae on the dorsal margin of the anepimeron; but the genitalia (Suwa 1991: Figs 49–69) do not correspond to any of the species in the

Afrotropical *fascigera* section. *E. megastigma* has no setula on the postgonite and 3–4 setae on the basoventral part of the surstyli.

***Emmesomyia cincinnata* sp. n.**

Figs 5, 74–80

Holotype ♂: 'Holotype' [white circular label with red perimeter]; 'UGANDA / Kigezi Dist. / 8170' / impenetr. forest / 2–4.xi.1964 / R. W. Crosskey' [white rectangular printed label]; 'Emmesomyia / sp. indet. ♂ near / nigrolutea Mall. / A. C. PONT DET.1964' [white rectangular printed label]; 'HOLOTYPE ♂ / Emmesomyia / cincinnata / D. M. Ackland' [white rectangular printed & written label]. In BMNH. In good condition, all appendages present. Genitalia dissected and mounted in glycerol in plastic tube on staging pin.

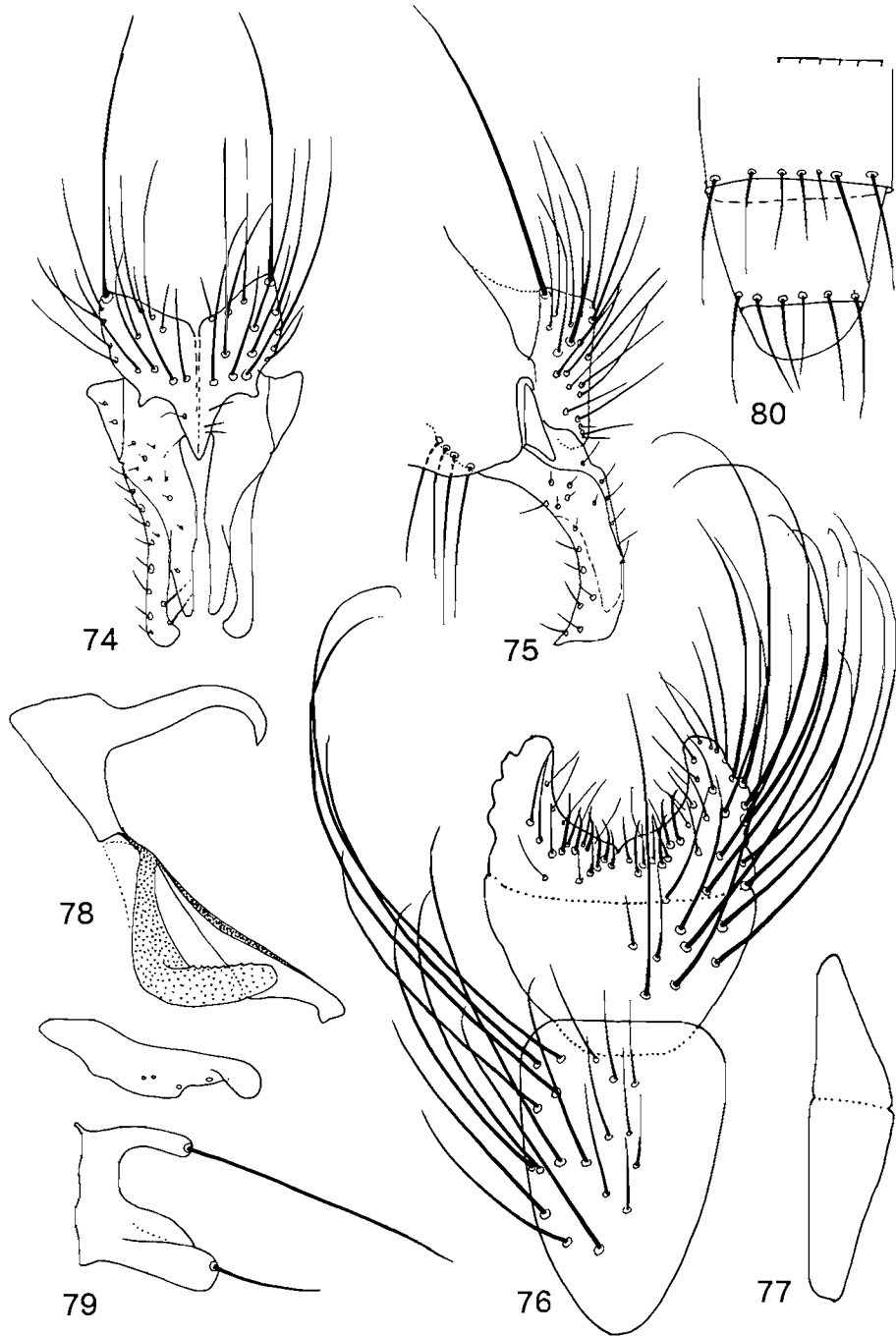
Etymology: *L. cincinnatus* = with curled hair. Refers to the very long curled setae on the 4th and 5th sternites.

Male:

Colour: Head: Interfrontalia, parafrontalia and genae black in ground colour with grey dust. Antennae dark brown with brownish grey dusting, basal segments not lighter; arista stem dark. Palpi dark brown to black, not paler at base; mentum reddish brown, semi-shining, weakly dusted basally. Thorax translucent dark reddish brown in ground colour, pleurae paler reddish on sutures, blackish on disc of scutum; viewed vertically from above (Fig. 5) with dark lateral markings which are joined laterally along suture, a more or less complete post crossband, which only reaches 2nd post dc medially, but reaches posterior calli laterally; from a low angle behind, 2 grey dusted stripes appear on crossband between dc, leaving a very narrow dark median stripe; viewed from in front black markings of scutum distinct, only post band showing a narrow grey dusted median stripe which nearly reaches suture; dorsal surface of scutellum dark grey dusted, only extreme tip faintly yellowish, viewed from behind the sides and ventral surface translucent orange-yellow. Abdomen dark brown in ground colour, lighter reddish brown ventrally at base, lateroventral margins of 5th tergite, 5th sternite, epandrium, viewed obliquely from behind, with brownish grey dust, and a narrow and indistinct dark mid stripe on tergite 1+2 only, just a trace of it visible on 3rd tergite, absent on remaining part of 3rd and 4th tergites; at a less oblique angle (i.e. about 60°) tergites semi-shining brownish. Wing membrane pale brownish tinged; wing base with veins brown; squamae light greyish brown tinged; halteres yellow. Coxae yellowish to orange; femora yellow, f1 dorsally orange, f2 and f3 lightly infuscated in apical sixth; tibiae completely orange-yellow; tarsi orange.

Head: Parafrontalia contiguous on upper half, widened opposite lunule to 2/3 width of flagellomere; eyes separated by 0.5 times diameter of anterior ocellus; genae below lowest point of eye margin 0.11 times eye height; 3 pairs of parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.5 times as long as wide, not quite reaching level of parastomal margin; arista with total width of hairing 0.5 times width of flagellomere.

Thorax: 3 pairs prst acr, middle pair only slightly the longest, rows separated by 2



Figs 74–80. *Emmesomyia cincinnata* sp. n., ♂ terminalia (Holotype). 74–75. Cercal plate and surstyli. 74. Caudal view. 75. Lateral view. 76. 4th and 5th sternites. 77. Ditto, lateral view (setae omitted). 78. Phallus, lateral view. 79. Gonites. 80. 4th and 5th tergites.

times distance between acr and dc rows, tri- to quadriserial irregular fine hairs between rows; 1 posthumeral seta; prealar seta 0.7 times length of post npl; dorsal surface of scutellum with 20–26 setulose hairs on disc, width at base equal to length; 1+2 katepisternals, lower posterior 0.8 times length of upper; anepimeron with single rather long setula; anepisternum with 2 unequal upper anterior setulae.

Legs: f2 with 2 basal v; f3 with about 6 av, 2 pv; t2 with 1 pd, 2 p; t3 with 1 av, 3 ad, 2 pd.

Abdomen: Strongly dorsoventrally compressed from base to 5th sternite, hypopygium slightly thickened; from above about 2.4 times as long as wide, almost parallel-sided. Tergite 1+2 with erect discal setulose hairs, 3rd to 5th tergites with discal setulae decumbent, hind marginal setae on all tergites more or less erect, moderately strong, lateral marginals on 4th tergite about half width of tergite, about 6 setae on 5th tergite, these somewhat shorter than length of tergite; 4th sternite (Fig. 76) with numerous erect setulose hairs, 5th sternite (Fig. 76) with very long curled setae on base and lobes, all projecting downwards. Surstylus (Figs 74 & 75) in caudal view short, straight, becoming narrower towards apex, inner process shorter than outer. Cerci distinctly wider than long, apex triangular and not very long. Pregonite (Fig. 79) divided into 2 lobes, anteroventral lobe slightly expanded dorsally, with setula half length of setula on posterodorsal lobe; postgonite (Fig. 79) without setula. Phallus as in Fig. 78; basiphallus with a subbasal epiphallus, posterodorsal margin rather long.

Body length 5.5 mm, wing length 6.0 mm.

Female: Unknown.

Discussion: The male differs from all other Afrotropical *Emmesomyia* in having a very wide but short cercal plate and narrow surstyli in profile. *E. setinervis* may be closely related, but has shorter 4th and 5th sternal setae.

Distribution: Only known from the ♂ holotype from Uganda.

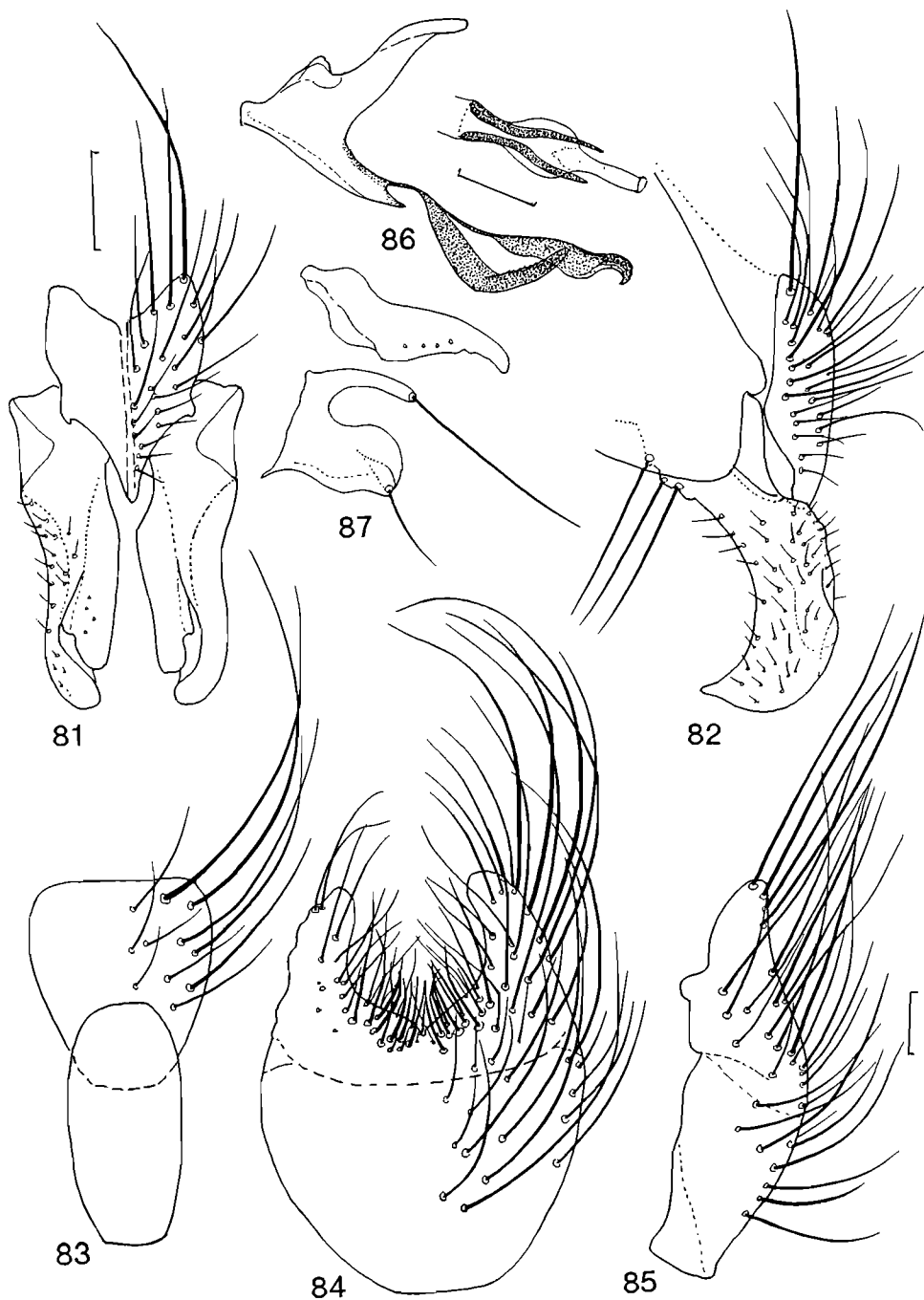
***Emmesomyia deemingi* sp. n.**

Figs 8, 81–87, 117–118

Holotype ♂: 'Holotype' [circular printed label with red perimeter]; 'NIGERIA: / Mambilla / Plateau / Ngel Nyaki / 28.xi.–3.xii.1968 / J. C. Deeming' [rectangular white printed label]; 'Montane / forest / c. 5500 ft, / u.v. light' [square white printed label]; 'HOLOTYPE / *Emmesomyia* / *deemingi* ♂ / D. M. Ackland' [rectangular white printed and written label with red perimeter]. In good condition with all appendages present, genitalia dissected and mounted in plastic vial in glycerol on staging pin. In NMWC.

Paratypes: NIGERIA: 2 ♂ 4 ♀, same data as holotype; 1 ♀, Mambilla Plateau, Kamartan Forest Reserve, 10.xii.1968, H. Roberts (NMWC). EQUATORIAL GUINEA: 1 ♀, Macias Nguema Biyogo [Fernando Pó], Moka, 28.i–3.ii.1933, W. H. T. Tams (BMNH).

Etymology: This species is named for Mr John Deeming, who has collected and made available to me many interesting Anthomyiidae from Africa.



Figs 81–87. *Emmesomyia deemingi* sp. n., ♂ terminalia (Holotype). 81–82. Cercal plate and surstyli. 81. Caudal view. 82. Lateral view. 83. 3rd and 4th sternites. 84. 5th sternite. 85. Ditto, lateral view. 86. Phallus, lateral view, and distiphallus, ventral view. 87. Gonites.

Male:

Colour: Head: Interfrontalia, parafrontalia and genae dark brown in ground colour, genae and parafacials obscurely reddish brown in places, with grey dusting. Antennae: Flagellomere dark brown, grey dusted, basal segments orange or reddish with brown infuscation. Palpi dark brown; prementum reddish brown, semi-shining. Thorax: Scutum (Fig. 8) dark brown, more reddish brown (and somewhat translucent) on humeri, notopleuron, posterior callus and pleurae (the latter orange-red in places); viewed from above scutum has prst area dark brown to black (exception humeri, notopleuron and a wide mid-stripe between acr, which are strongly contrasting light grey dusted); mid stripe not reaching fore margin and appears grey towards suture; black lateral marks reach suture, but here are dark grey dusted; dark post band reaches 3rd dc setae laterally, but has a sinuate posterior margin; as angle of view from behind becomes more oblique, the light grey dusted areas increase in size; viewed from in front the pale prst median stripe increasingly disappears, so that whole dorsum (prescutellar area excepted) is dark blackish brown, somewhat shining; scutellum obscurely orange-brown translucent in ground colour, with brown dust on dorsal surface; viewed from in front (at a low angle) dust appears pale greyish brown. Abdomen dark brown in ground colour, partly deep reddish brown (translucent); viewed from behind densely pale grey dusted with a narrow dark mid-stripe on tergite 1+2, more or less disappearing on remaining tergites; 5th sternite and hypopygium partly reddish brown. Wing membrane pale brownish tinged; extreme wing base and stem vein contrasting creamy white; squamae pale brownish, with slightly orange borders and fringes; halteres yellow. All legs (including coxae, trochanters and tarsi) orange-brown (slightly infuscated) with thin grey dust.

Head: Parafrontalia contiguous on upper part of frons; at level of lunule about 0.7 times width of flagellomere; eyes separated by less than diameter of anterior ocellus; genae below lowest point of eye margin about 0.1 times eye height. 3 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus; genal setae in single row. Flagellomere long, about 3 times as long as wide; arista with total width of hairing slightly more than half width of flagellomere (0.55 times).

Thorax: 3 pairs very fine hair-like prst acr, hardly differentiated from thoracic hairs (middle pair very insignificantly longer than others), rows widely separated by 2.5 times distance between acr and dc rows, with 4–5 irregular rows of hairs between them; 1 posthumeral seta; prealar seta 0.8 times length of post npl; dorsal surface of scutellum with 16–20 fine setulae, only extreme base bare; 1+2 katapisternals, lower hind seta 0.8 times length of upper; anepimeron with 1–3 setulae on dorsal margin.

Legs: f2 with 2 v setae at base; f3 with 5–6 av, 1 pv; t1 with a very short ad and a longer pv; t2 with 2 pd, 1 p; t3 with 3 ad, 2 pd.

Abdomen: Slightly dorsoventrally compressed; viewed from above 1.7 times as long as wide (at 2nd tergite, which is 3 times as wide as long), lateral margins slightly concave; lateral marginal setae on 5th tergite erect and as long as tergite, and longer than setae on tergite 7+8. Terminalia very similar to *setinervis*, differing as follows: 4th sternite (Fig. 83) distinctly wider than 3rd sternite; 5th sternite (Fig. 84) with

longer and more numerous lateral setae on processes (almost as long as sternite) and more numerous and slightly spinose setae on inner basal part of processes. Surstylus (Figs 81 & 82) with inner lobe (in caudal view) wider, and with a notch at apex. Pregonite (Fig. 87) deeply indented (as *setinervis*), but posterodorsal margin of anteroventral lobe wider and more rounded.

Body length 6.0 mm, wing length 6.0 mm.

Female:

Colour: Interfrontalia mainly dark, or obscurely reddish anteriorly. Thorax (Fig. 8) as in ♂, pleurae perhaps lighter reddish orange. Abdomen largely orange-brown (sometimes darker) with varying degrees of infuscation; thin grey dust from some angles, as darker mid-stripe which is widened out on anterior margins, abdomen partly shining.

Head: Interfrontalia at level of middle ors about 4 times as wide as each parafrontal; eyes separated by about half (0.48 times) total width of head. Parafrontal setae differentiated into 2 pairs of ors and 3 pairs of ori; crossed interfrontal setae rather fine. 1+2 katepisternals, lower hind seta 0.4 times length of upper.

Thorax: Wing: R_{4+5} with short, widely spaced spinules along whole length of dorsal and ventral surfaces.

Abdomen: 5th and 6th tergites with erect hind marginal setae. Ovipositor (Figs 117 & 118) very similar to *setinervis*, no significant differences apparent, perhaps anterior row of spinose setulae on posterior margin of 7th tergite (on paired semi-islets) are shorter, and all the same length.

Body length 5.0 mm, wing length 5.5 mm.

Discussion: *Emmesomyia deemingi* has fine, widely spaced setulae on wing vein R_{4+5} in the ♀ only, a character shared with *E. setinervis* (Stein). The ♂ of *deemingi* differs from *setinervis* (characters in parentheses) in having shorter arisal hairing, the total width being about half that of flagellomere (as wide as), scutum with a wide distinct black post crossband and strongly contrasting whitish shifting prst median stripe (crossband if present obscure and not strongly contrasting with any dusting), abdomen generally dark brown (more translucent orange, at least basally), scutellum infuscated brownish and only obscurely dark orange in ground colour (clear orange). The ♀ of *deemingi* differs from *setinervis* in much the same way, except the abdomen and legs are paler (as usual in females).

Distribution: *E. deemingi* is known from Nigeria and Equatorial Guinea.

Emmesomyia micans (Stein)

Figs 88–98

Pegomyia micans Stein, 1906: 73; Bezzi, 1908: 97; Stein, 1919: 148.

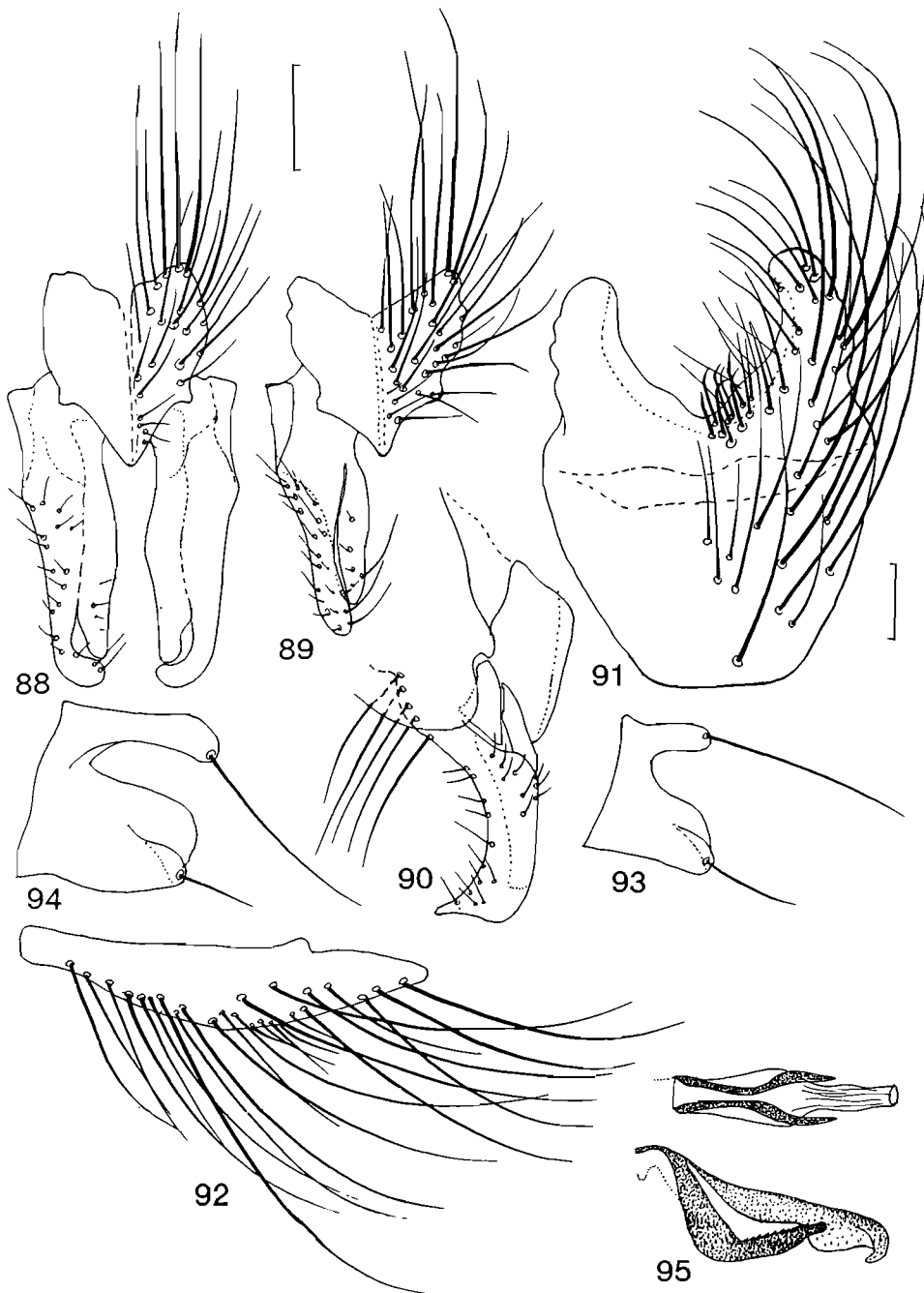
Pegomyia tarda Stein, 1913: 559; Stein, 1918: 200; Stein, 1919: 149. **Syn. n.**

Emmesomyia africana Malloch, 1921: 423; Malloch, 1924: 260; Emden, 1941: 259; Emden, 1951: 349.

Synonymy after Emden, 1941.

Emmesomyia tarda (Stein): Malloch, 1921: 422; Malloch, 1924: 260; Emden, 1941: 259; Emden, 1951: 329.

Emmesomyia micans (Stein): Emden, 1941: 259; Emden, 1951: 349.



Figs 88–95. *Emmesomyia micans* (Stein), ♂ terminalia (89–93 = *micans* lectotype). 88–90. Cercal plate and surstyli. 88. Caudal view (Ruwenzori). 89. Caudal view (Cameroon). 90. Lateral view (Cameroon). 91. 5th sternite. 92. Ditto, lateral view. 93. Pregonite (Cameroon). 94. Pregonite (Ruwenzori). 95. Distiphallus, lateral and ventral views.

Lectotype ♂: *Pegomyia micans* Stein: 'N. Kamerun / Johann-Albrechtshöhe / L. Conradt. S6' [blue printed rectangular label]; 'Zool. Mus. / Berlin' [yellow rectangular printed label]; 'Typus' [orange-red printed label]; 'Pegomyia / micans sp.n. / ♂ Stein' [blue-green handwritten rectangular label]. In good condition, all appendages present. Genitalia mounted in glycerol in plastic tube on staging pin. Reviewed and designated during present study. In ZMHU.

Paralectotypes: 2 ♂, same data as lectotype, except third label has 'micans' [handwritten white label], and there is an additional label '17.5.96'. Reviewed and designated during present study. In ZMHU.

Holotype ♀: *Emmesomyia africana* Malloch: 'N. Nigeria / Zungeru / Nov. 1910 / J. W. Scott-MacFie / 1911-417' [rectangular white printed label]; 'Holotype' [white printed label with red perimeter]; 'Emmesomyia / africana / Mall. Type' [white rectangular pencilled label]. Head glued on, right flagellomere and arista missing, front left tarsus missing. Reviewed during present study. In BMNH.

Syntypes: *Pegomyia tarda* Stein: Described from 1 ♂ 1 ♀ (type locality Durban). These were probably in the Hungarian Natural History Museum, Budapest, and would have been destroyed in 1956.

Other material examined: CAMEROON: 1 ♂, Barmenda Hosp., 7.xii.1937, M. D. W. Jeffrys, 4800ft (BMNH). KENYA: 1 ♂, Diani Beach, ix.1951, N. L. H. Krauss (BMNH); 1 ♀, Ngong, viii.1944, van Someren (BMNH); 1 ♂, Ngong, iv.1941, van Someren (BMNH). MALAWI: 1 ♂, [locality illegible] 8.x.1912, Dr J. E. S. Old (BMNH). UGANDA: 2 ♂, Ruwenzori Range, Namwamba Valley, xii.1934-i.1935, F. W. Edwards, 6500ft (BMNH); 2 ♂, Ruwenzori Range, Mobuku Valley, xii.1934-i.1935, F. W. Edwards (BMNH); 1 ♀, Ruwenzori Range, Kilembe, xii.1934-i.1935, F. W. Edwards, 4500ft (BMNH); TANZANIA: 2 ♂ 2 ♀, Amani [no other data] (BMNH). MOZAMBIQUE : 3 ♂ 2 ♀, Gorongoza Mountain, Manica-Sofala Dist., ix.1957, Stuckenberg, 840m, gallery forest (NMSA). NIGERIA: 2 ♂, Zaria, Dumbi Wood, 13.ix.1971, J. C. Deeming (NMWC); 1 ♂, Mambilla Plateau, Ngel Nyaki, 28.xi-3.xii.1968, J. C. Deeming, montane forest, c. 5500 ft, u.v. light (NMWC). GHANA: 1 ♀, Ashanti, Dunkua, 2.vii.1907, W. M. Graham, caught on leaf (BMNH).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae brown in ground colour with greyish dust. Antennae brown with greyish dust, scape and pedicel partly lighter reddish brown. Palpi brown; mentum light brown. Thorax with scutum varying in colour from almost completely orange-yellow to largely brown infuscated, or with a wide dark brown median stripe which is light grey dusted in certain views (in syntypes of *micans* entirely orange or reddish orange in ground colour, which is slightly darker when viewed from behind, the median prst area with a light grey dusted stripe which is as wide as dc rows, and light dusted humeri and npl area, no trace of a dark median stripe); scutellum orange-yellow. Abdomen orange-yellow, no trace of a darker mid-stripe, slightly darker reddish brown hind margins of tergites; sternites and hypopygium orange. Wing membrane tinged light brown, wing base and veins orange; squamae light smoky brown; halteres orange. Legs orange with tarsi slightly darker.

Head: Parafrontalia linear on frons at narrowest point, at level of lunule about 0.5 times width of flagellomere; eyes almost touching on frons, separated by less than diameter of an ocellus; genae below lowest point of eye margin very narrow, 0.07 times eye height; 2–3 pairs of parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.5 times as long as wide, not quite reaching buccal margin; arista with total width of hairing not more than 0.6 times width of flagellomere.

Thorax: 3 pairs prst acr, rows separated by 2 times distance between acr and dc rows, with 3–4 rows of setulae between them; 1 posthumeral seta; prealar seta 0.6 times length of post npl; dorsal surface of scutellum with 30–35 setulae; 1+2 katapisternals, lower p seta 0.9 times length of upper p seta; anepimeron with a single setula.

Legs: t3 with 3 ad setae in syntypes of *micans*, the distal one is however rather short.

Abdomen: Rather short and wide, 0.7 times as wide as long, 3rd tergite 3 times as wide as long, dorsoventrally compressed; 4th sternite 1.5 times as long as wide at posterior margin, with long lateral setae; 5th sternite (Figs 91 & 92) with setae on lateral margins of processes not much longer than processes, those on basal part of sternite rather long and erect. Surstylus (Figs 88–90) not much longer than cercal plate (Ruwenzori material 1.2 times), inner lobe shorter than outer. Pregonite (Figs 93 & 94) divided into 2 lobes, setula on anteroventral lobe shorter; postgonite without setula. Phallus as in Fig. 95.

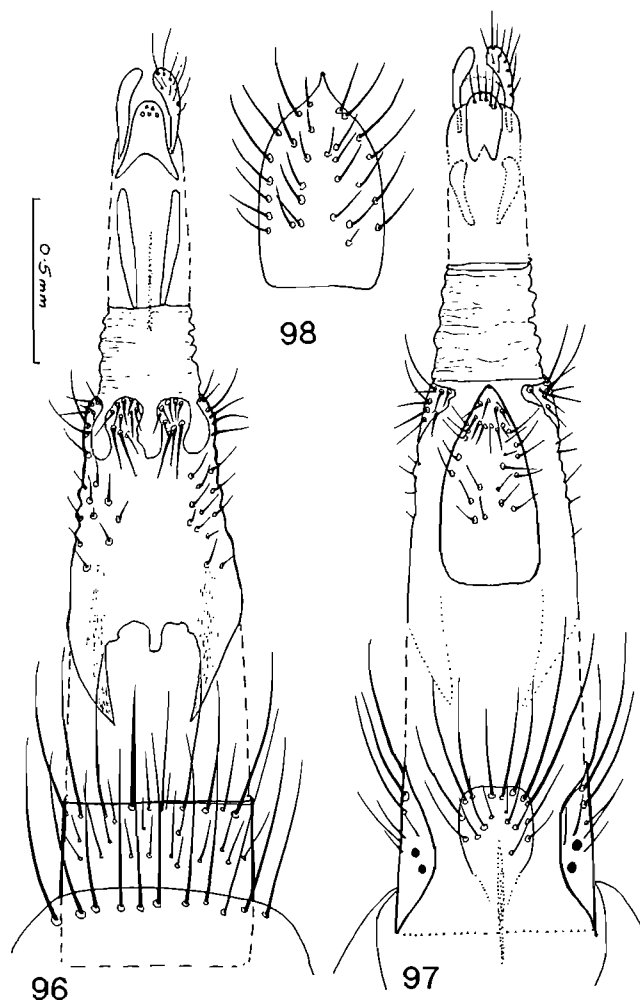
Body length 5.5–6.5 mm, wing length 4.5–5.5 mm (lectotype of *micans* BL 6.0 mm, WL 5.0 mm).

Female:

Colour: Agrees with ♂ in all details except for the usual sexual differences. Eyes separated by about 0.25 times total head width. Parafrontal setae differentiated into 3 pairs of ors and 3 pairs of ori; crossed interfrontal setae absent in 2 ♀ from Mozambique, but present in 2 ♀ from Tanzania. 1+2 katapisternals, lower posterior 0.4 times length of upper.

Abdomen: 6th tergite with quite strong setae on posterior margin; 6th and 7th spiracles close together on 6th tergite; 7th tergite with strongly indented posterior margin, dorsal semi-islets bearing 3 rows of spicules directed anteriorly, anterior row longer; lateral margins of tergite also with longer and shorter stiff setae and short spinose setae on posterior half, and also on dorsal surface; anterior sclerotised arms shorter than posterior part. 7th sternite pointed posteriorly, anterior margin square-ended. 8th segment with longer paired sclerotised tergites and shorter paired sternites.

Discussion: Stein described *micans* from 3 ♂ (N. Cameroon) in 1906. In 1919 he described *tarda* from 1 ♂ 1 ♀ caught at Durban, Natal. The only significant difference mentioned in his descriptions is the presence of only two ad on the hind tibia in *micans* ♂ (Hinterschienen aussen und aussenabgewandt mit je 2), and 3 ad in *tarda* (aussen abgewandt mit 3). In 1921 Malloch described *africana* from the ♀ only, caught in N. Nigeria, and mentioned that it only differed from *tarda* 'in having only 2 bristles on the ad surface of Tb3'. There is no mention of *micans* in any of Malloch's papers.



Figs 96–98. *Emmesomyia micans* (Stein), ♀ ovipositor. 96. Dorsal view. 97. ventral view (Mozambique). 98. 7th sternite (Natal).

I was able to study 3 ♂ syntypes of *micans*, kindly lent to me by Dr Schumann. Stein described *micans* as having 2 ad and 2 pd setae on the hind tibia, but all 3 syntypes have 3 ad setae, the distal one being very short. I do not consider this character to be of significance, as quite often the number of tibial setae varies in different specimens.

Of the material of *micans* available, there is some difference in the dorsal markings of the thorax. As mentioned in the description, the lectotype of *micans* has hardly any dark markings or stripes; a ♂ from Cameroon (Bamenda, BMNH) has the whole area between the dc setae darkened and t3 with 3 ad setae, a ♂ from Nigeria (Zaria, NMWC) is similar but with more grey dusting; 3 ♂ and 2 ♀ from Mozambique (Gorongosa, NMSA) are all orange with white dusting. Specimens from Uganda (Ruwenzori Range, BMNH) have a very faint pale brownish stripe between acr rows

only; these latter specimens also show some differences in the shape of the anteroventral lobe of the pregonite, and longer surstyli. Specimens from West and East Africa do not differ significantly in their genitalia, meaning that these small differences probably result from recent isolation of the Ruwenzori population.

Distribution: *Emmesomyia micans* occurs across central Africa, from Nigeria in the west to Kenya in the east, and southwards to Natal (South Africa).

***Emmesomyia nudiloba* sp. n**

Figs 6, 99–105

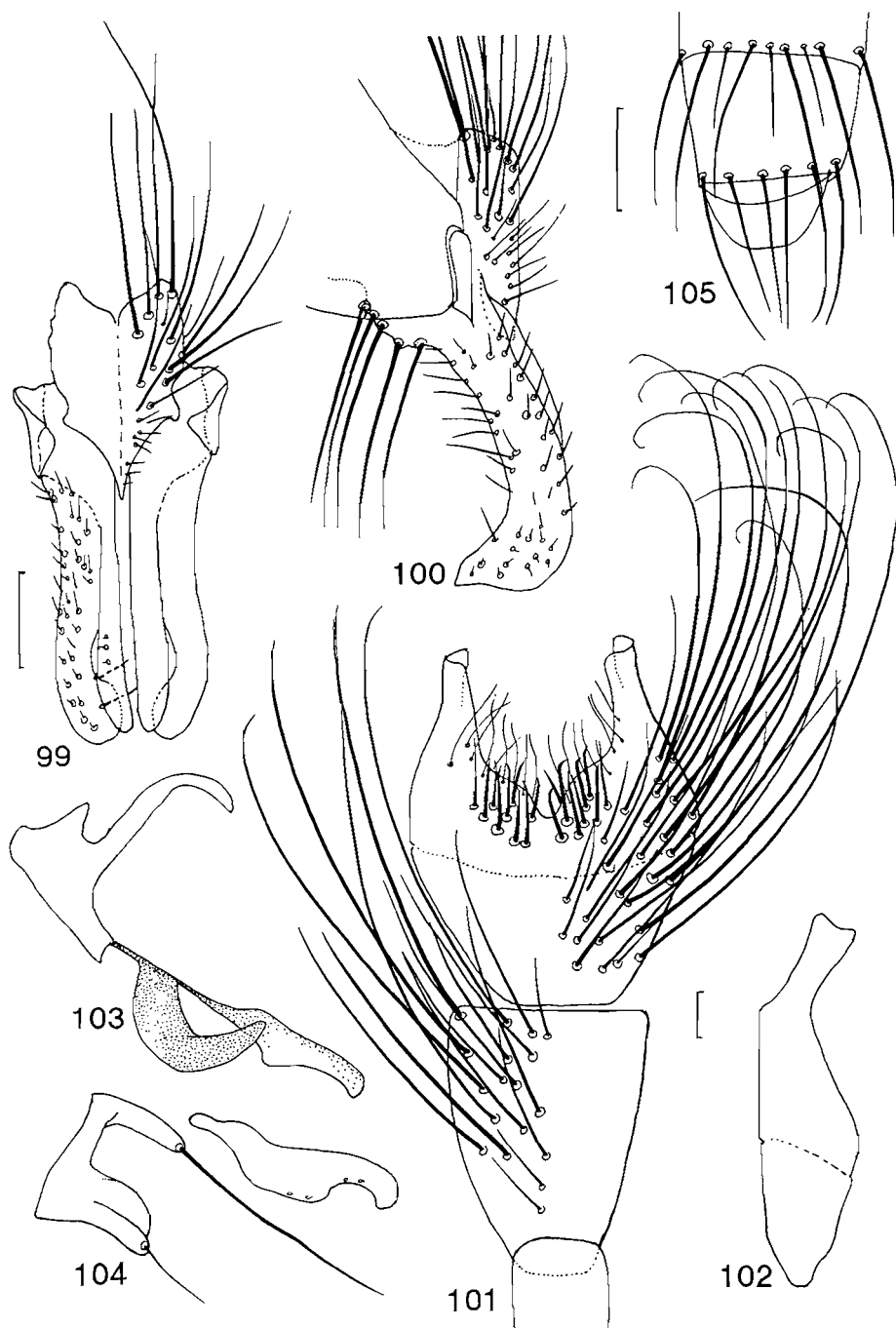
Holotype ♂: 'Holotype' [white circular label with red perimeter]; 'KENYA: / Aberdare Range / x.1934 / B. M. E. Afr. Exp. / B. M. 1935–203' [white printed rectangular label]; 'Katamayo / 8000ft, / F. W. Edwards' [white printed rectangular label]; 'HOLOTYPE / *Emmesomyia* / *nudiloba* ♂ / D. M. Ackland' [white rectangular label with red perimeter]. Left mid tibia and tarsi missing, right mid tarsi, left hind tarsi, and right hind leg missing; genitalia dissected and mounted in glycerol in a plastic tube on staging pin. In BMNH.

Etymology: *L. nudus* = bare and *lobus* = lobe. The name *nudiloba* refers to the bare apical part of the 5th sternite processes.

Male:

Colour: Head: Interfrontalia, parafrontalia and genae black in ground colour, with greyish dust. Antennae dark brown to black in ground colour, basal segments black with a trace of reddish brown on apical margin of pedicel. Palpi very dark brown; prementum dark brown with thin grey dust. Thorax mainly dark brown to black in ground colour, humeri brown with traces of orange on sutures, parts of pleurae orange-brown, postnotum brown; scutum (Fig. 6) viewed from above or slightly from behind, with 2 black quadrilateral lateral prst marks reaching from anterior margin (where they join) almost to suture, only narrow dark grey dusting along suture, very light grey dusted median stripe between prst acr extending to 2nd prst acr, but viewed from slightly lower angle from behind light grey median area reaches suture; black post band reaches from suture to halfway between 2nd and 3rd post dc, hind margin sinuate; from a low angle in front scutum is mainly blackish brown and semi-shining, only humeri and area anterior to scutellum grey dusted; scutellum dark brown with bronzy dust. Abdomen with dorsal surface black to dark brown, hypopygium lighter reddish brown, sternites dark brown except 5th sternite which is orange; dorsal surface, viewed from behind, with very dense, light bluish grey dust, and a brown mid-stripe about as wide as f3, somewhat shining and becoming wider on hind margins of 3rd to 5th tergites. Wing membrane pale greyish brown tinged; wing base with veins light brown, stem vein lighter creamy yellow; squamae whitish with white fringe, lighter than wing base membrane; halteres yellow. Fore coxae pale orange, whitish grey dusted, contrasting with pleurae; mid and hind coxae orange-brown; femora tawny brown, indistinctly paler orange basally; tibiae and tarsi orange-brown, but mainly infuscated darker brown.

Head: Parafrontalia contiguous on upper part of frons, 0.5 times width of flagellomere at level of lunule; eyes separated by slightly less than diameter of



Figs 99–105. *Emmesomyia nudiloba* sp. n., ♂ terminalia (Holotype). 99–100. Cercal plate and surstyli. 99. Caudal view. 100. Lateral view. 101. 4th and 5th sternites. 102. 5th sternite, lateral view (setae omitted). 103. Phallus, lateral view. 104. Gonites. 105. 4th and 5th tergites.

anterior ocellus; genae below lowest point of eye margin 0.14 times eye height. 3 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.7 times as long as wide, apex almost reaching peristomal margin; arista with total width of hairing 0.6–0.7 times width of flagellomere.

Thorax: 3 pairs rather fine and short prst acr, none of them markedly longer than the others, separated by twice distance between acr and dc rows, with about 3 irregular rows of fine hairs between rows, acr setae not very differentiated from the hairs; 1 posthumeral seta; prealar seta 0.7 times length of post npl; dorsal surface of scutellum with about 34–46 short setulose hairs on disc, no bare area at base; scutellum 1.5 times as wide at base as long; 1+2 katapisternals, ventral posterior seta 0.8 times as long as lower; anepimeron with a single setula on dorsal margin.

Legs: t1 with a distinct but small ad and a longer pv; t2 with 2 pd, 1 pv (legs rather twisted and setae difficult to see); t3 with apparently 2 ad and 2 pd (right hind leg missing).

Wing: Costa with marginal spinules short, costal spines distinct but short, about twice as long as adjacent spinules; lower cross-vein oblique, not strongly sinuate.

Abdomen: 2.5 times as long as wide, parallel-sided, so that 3rd and 4th tergites are the same width, tergite 1+2 of equal length to 4th and 5th tergites combined; tergite 1+2 with erect discal setulose hairs, lateral margins of all tergites with long setae, posterior marginals on 3rd and 4th tergites long, lateral posterior marginals on 4th tergite reaching or passing posterior margin of 5th tergite. Epandrium in caudal view rather longer than wide; 4th sternite (Fig. 101) 1.4 times as long as widest part (posterior margin), with long marginal and discal setae, their apices reaching apices of 5th sternite processes; 5th sternite (Fig. 101) with apices of processes truncate, apical half bare of setae on inner and outer margins, base of inner processes with some strong short spinose setae (apices bent) and numerous rather long fine hairs; lateral margins with rather dense, very long (curling at tips) setae from base of sternite to middle of processes, these setae surpassing processes by a distance equal to length of sternite. Surstylus (Figs 99 & 100) long and straight in caudal view, inner lobe almost as long as outer; in profile rather narrow, with 4–5 strong and long basoventral setae. Cercal plate longer than wide (1.5 times), apex short but pointed. Pregonite (Fig. 104) deeply indented, setula on anteroventral lobe much shorter than that on finger-like posterodorsal lobe; postgonite (Fig. 104) without setula. Phallus (Fig. 103) with distiphallus long and narrow; basiphallus with median epiphallus.

Body length 6.0 mm, wing length 6.5 mm.

Female: Unknown.

Discussion: This unique male was found amongst the material in the BMNH determined by Emden as *nigrolutea* (Emden 1951: 349).

Emmesomyia setinervis (Stein)

Figs 7, 11, 12, 106–116

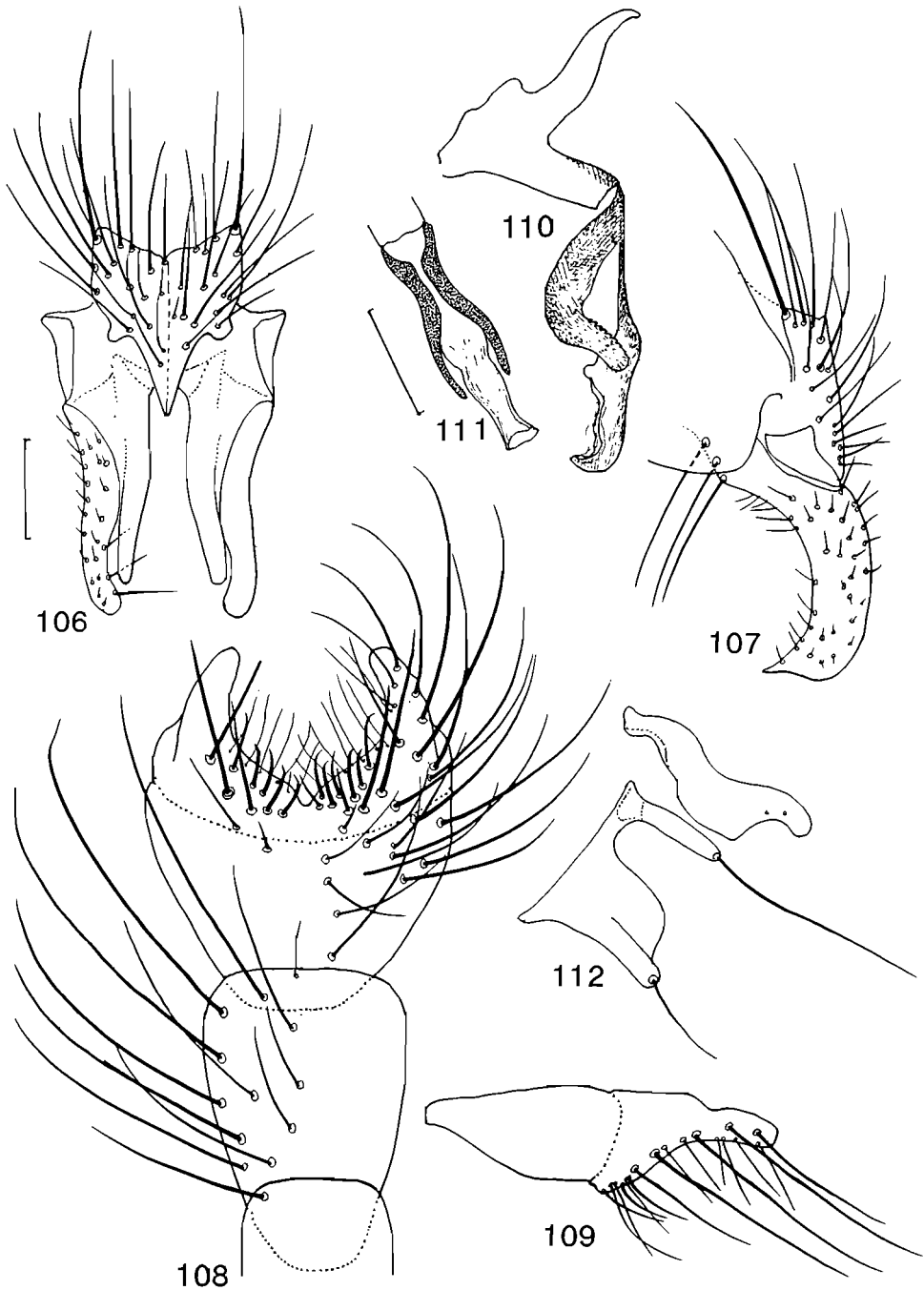
Hydrophoria setinervis Stein, 1906: 71; Bezzi, 1908: 96.

?*Pegomyia setinervis* (Stein): Stein, 1919: 149.

?*Neopegomyia setinervis* (Stein): Malloch, 1929: 102.

Emmesomyia setinervis (Stein): Emden, 1941: 259.

'*Emmesomyia ignobilis* (Stein)': Emden, 1951: 349, ♂ not ♀. Misidentification.



Figs 106–112. *Emmesomyia setinervis* (Stein), ♂ terminalia. 106–107. Cercal plate and surstyli. 106. Caudal view (Uganda). 107. Lateral view (Uganda). 108. 4th and 5th sternites (Uganda). 109. Ditto, lateral view (Uganda). 110. Phallus, lateral view (Zimbabwe). 111. Distiphallus, ventral view (Zimbabwe). 112. Gonites (Zimbabwe).

Holotype ♀ : *Hydrophoria setinervis* Stein: 'Togo / Bismarcksborg / October 1891 / R. Büttner S ' [blue rectangular printed label]; 'Type' [red printed label]; 'Hydrophoria / setinervis / sp. nov. / ♀ Stein' [pale blue handwritten rectangular label]; 'Zool. Mus / Berlin' [buff printed rectangular label]. In good condition, all appendages present, rather dusty; the tiny widely spaced setulae on wing vein R_{4+5} are abraded and difficult to see on dorsal surface of wing, but more distinct (in part) on ventral surface. Reviewed during present study. In ZMHU.

Other material examined: KENYA: 1 ♀, Nairobi, vi.1928, van Someren (BMNH); 1 ♀, same locality, vii.1930, van Someren (BMNH). ZIMBABWE: 1 ♂, Vumba Mts., xii.1936, Major Drysdale (BMNH); 1 ♂, Inyamadzi R., Melsetter Dist., 25.v.1939, W. L. Williams (BMNH). UGANDA: Ruwenzori Range, 2 ♂, Kilembe, xii.1934–i.1935, F. W. Edwards (BMNH); 1 ♂, Kyarumba, xii.1934–i.1935, D. R. Buxton, 4500 ft (BMNH). SOUTH AFRICA: Natal: 1 ♀, #47, Umgeni Valley, N/R, 29°28'S:30°16'E, Mdoni River Forest, 18.vii.1990, Henshal & A. E. Whittington, 850m (NMSA).

Male:

Colour: Head: Interfrontalia, parafrontalia and genae black in ground colour with light greyish dust. Antennae brown with light greyish dust, basal segments with traces of reddish brown, stem of arista orange. Palpi brown, paler at base; prementum orange-brown, semi-shining. Thorax (Fig. 7) largely translucent orange, including humeri and most of pleurae; anepisternum, katepisternum and meron with darker reddish brown areas, scutum darkened on disc, becoming lighter at sides; viewed vertically from above or from in front largely brownish black, viewed from a low angle behind, it appears densely dusted light greyish, with only indistinct prst lateral marks and a vaguely darker post cross band; scutellum completely orange-yellow, or at most indistinctly infuscated on disc basally. Abdomen completely orange, with darker, very narrow hind marginal bands and an indistinct median stripe, sometimes with *post mortem* darkening on tergites; 5th sternite sometimes infuscated brownish; hypopygium and prehypopygial tergites orange. Wing membrane lightly brownish tinged; squamae tinged as wing membrane, fringe brownish; halteres orange. All coxae, femora, tibiae, and tarsi yellow.

Head: Parafrontalia narrow and contiguous posteriorly, above lunule 0.75 times width of flagellomere; eyes separated by at most width of anterior ocellus; genae below lowest point of eye margin 0.1 times eye height. 3 pairs of rather short parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere about 2.8 times as long as wide; arista plumose, with total width of hairing almost equal to width of flagellomere.

Thorax: 3 pairs prst acr, middle pair the longest, rows separated by twice distance between acr and dc rows, with 3–4 rows of setulose hairs between them; 1 posthumeral seta; prealar fine, 0.5 times length of post npl; dorsal surface of scutellum with 14–16 fine discal setulose hairs, basal third bare; 1+2 katepisternals, lower posterior seta 0.8 times length of upper; anepimeron with small setula on dorsal margin; anepisternum with small upper anterior setula.

Legs: f2 with 1–2 developed pv in basal half; f3 with about 7 av, 1 pv in basal half; t2 with 1 pd, 2 pv; t3 with 1 av, 3 ad, 2 pd.

Abdomen: Twice as long as maximum width at hind margin of tergite 1+2, dorsoventrally compressed, slightly thickened at apex; hind marginal setae on tergite 1+2 rather short, the same setae on succeeding tergites becoming longer, strong on 5th tergite where they are semi-erect and as long as tergite; 4th sternite (Fig. 108) about twice as long as wide, with about 6–8 long lateral setae of which the posterior ones (apices not fine and curling) do not quite reach apex of 5th sternite processes, disc of 4th sternite rather sparsely setose; 5th sternite (Figs 108 & 109) with row of stout short spinose setae on inner margins of processes with apices bent, and numerous long fine hairs; apicolateral setae on processes not longer than processes; median basal part of processes with 4 long straight spinose setae, outer pair reaching apex of processes. Surstylus (Figs 106 & 107) with inner processes shorter than outer, latter with numerous microtrichia, in profile apical 2/3 curved but not tapering. Cerci as wide as long. Pregonite (Fig. 112) deeply divided into 2 lobes, anteroventral one with a short setula; postgonite (Fig. 112) without setula. Phallus (Fig. 110) with basiphallus rather short, subbasal epiphallus forming an acute angle with basiphallus; acrophallus extending beyond apices of paraphalli.

Body length 5.5 mm, wing length 5.2 mm.

Female:

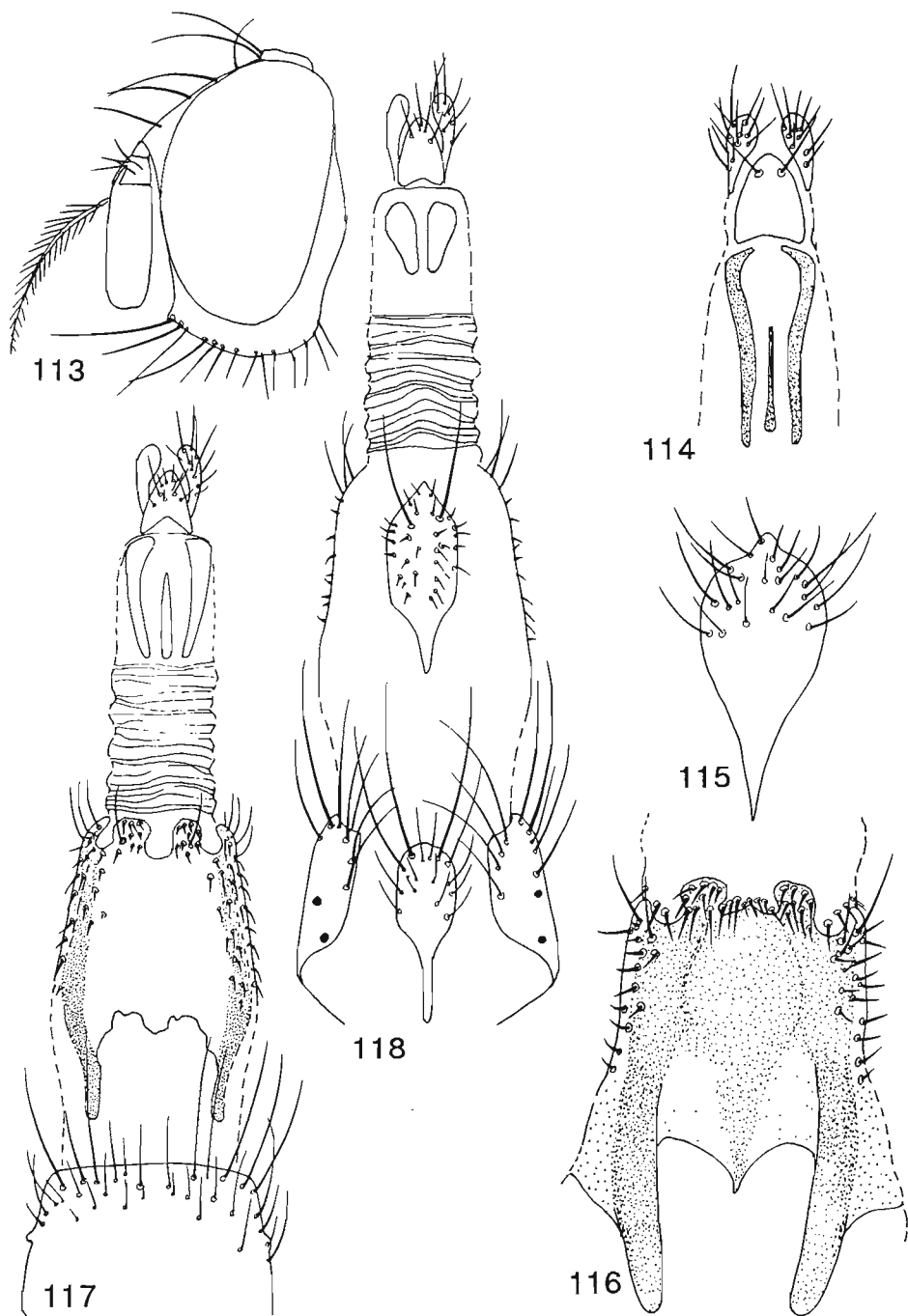
Colour: Interfrontalia black. Antennae reddish brown, basal segments orange-brown; mentum light brown and shining. Palpi brown. Thorax with scutum viewed vertically, darkened on disc with grey dust and traces of prst darker lateral triangular stria between prst dc and posthumeral, bordered externally by semi-shining red stria (holotype ♀ from Togo with dark brown mid stripe from head to scutellum, as wide as space between acr setae, which is grey dusted in some lights; lateral areas of scutum somewhat shining dark orange-brown), postsuturally with 3 indistinct darker stripes near pra seta, viewed from in front prst area is mainly brown apart from reddish lateral areas, postsuturally in middle grey dusted with 2 narrow darker stripes between dc and acr setae; sometimes scutum more extensively reddish; pleurae completely reddish with greyish dust; scutellum orange with faint basal brown dust; prosternum orange. Abdomen orange. Legs completely orange.

Head: Interfrontalia at level of anterior ocellus about 4 times as wide as each parafrontal; eyes separated by about one-third head width; parafrontalia widening anteriorly to about width of flagellomere. Crossed interfrontal setae strong. Antennae with flagellomere (Fig. 113) rather long, almost reaching buccal margin, arista (Fig. 11) plumose, total width of hairing almost equal to width of flagellomere.

Thorax: 1+2 katapisternals, lower posterior about 0.35 times length of upper.

Wing: Vein R_{4+5} (Fig. 12) with short, widely spaced spinules along whole length of dorsal and ventral surfaces, from junction with R_{2+3} to wing tip.

Abdomen: Ovipositor as in Figs 114–116. 6th tergite entire, with hind marginal setae weaker and shorter than those on 5th tergite; 7th tergite (Fig. 116) with anterior sclerotised arms shorter than posterior part, lateral margins with short spicules and longer anterior lateral setae, hind margin with 2 sclerotised semi-islets with 2–3 rows of anteriorly directed stiff setae, anterior row longer. 7th sternite (Fig. 115) with anterior margin pointed. 8th tergite (Fig. 114) represented by 3 sclerotised strips, median one narrow and short.



Figs 113–118. *Emmesomyia* species. 113–116. *E. setinervis* (Stein), ♀ (Kenya). 113. Head, lateral view. 114. Apical segments of ovipositor, dorsal view. 115. 7th sternite. 116. 7th tergite. 117–118. *E. deemingi* sp. n., ♀ ovipositor (Paratype). 117. Dorsal view. 118. Ventral view.

Body length 6.0 mm, wing length 6.0 mm.

Discussion: Emden (1941: 258) remarked that he had only studied a somewhat aberrant East African specimen of *setinervis*. There are two ♀ in BMNH with his det. label '*setinervis*'. He noticed (as did Stein) the tiny spaced setulae on wing vein R_{4+5} , but may have been uncertain of his identification because of the distance from the type locality, or the somewhat different markings on the scutum (holotype from Togo with a broad dark mid stripe, ♀ ♀ from Nairobi with more extensive darker scutal markings). In spite of the separation of the localities, and because dorsal thorax markings in some *Emmesomyia* species are variable, especially due to *post mortem* changes, I am fairly certain that the specimens are conspecific. Other characters which confirm this are: dark palpi, body and legs mainly orange to red, lower hind katapisternal seta present even if short (♀ only), arista plumose (nearly to fully as long as width of flagellomere, and the latter rather long and reaching buccal margin), and scutellum wholly or mainly orange in ground colour. The only other Afrotropical *Emmesomyia* species in which R_{4+5} is finely setulose is *deemingi* sp. n. (Nigeria), which is darker with total width of arisal hairing not much more than half width of flagellomere.

The ♀ from Umgeni, Natal, is in general appearance very similar to some specimens of *tarda*, the scutum being almost completely orange-yellow with only an indistinct median stripe; however the arista is distinctly wider, equal to the width of a flagellomere, and under high magnification the dorsal surface of the right R_{4+5} (between junction of R_{2+3} and crossvein dm-cu) 4 erect setulae are present, and on the left wing in the same position 3 are present; the apical section of R_{4+5} appears to be bare, although the setulae are probably broken off. The ovipositor of these two species shows no reliable differences.

The 5 ♂ identified here as the previously unknown male of *setinervis* (det. Emden as *ignobilis*) cannot be *ignobilis*, as the latter species has yellow or orange palpi, a much shorter arista, scutellum dark in ground colour, and infuscated legs. The ♀ of *setinervis* agrees however with these males in having dark palpi, an orange scutellum (sometimes basally darkened), and a plumose arista. Further confirmation that these males are probably correctly associated lies in the similarity between the ovipositors of the ♀ of *setinervis* and *deemingi*, and the very similar ♂ genitalia of the two species. Unfortunately no males which might be referable to *setinervis* are available at present from West Africa.

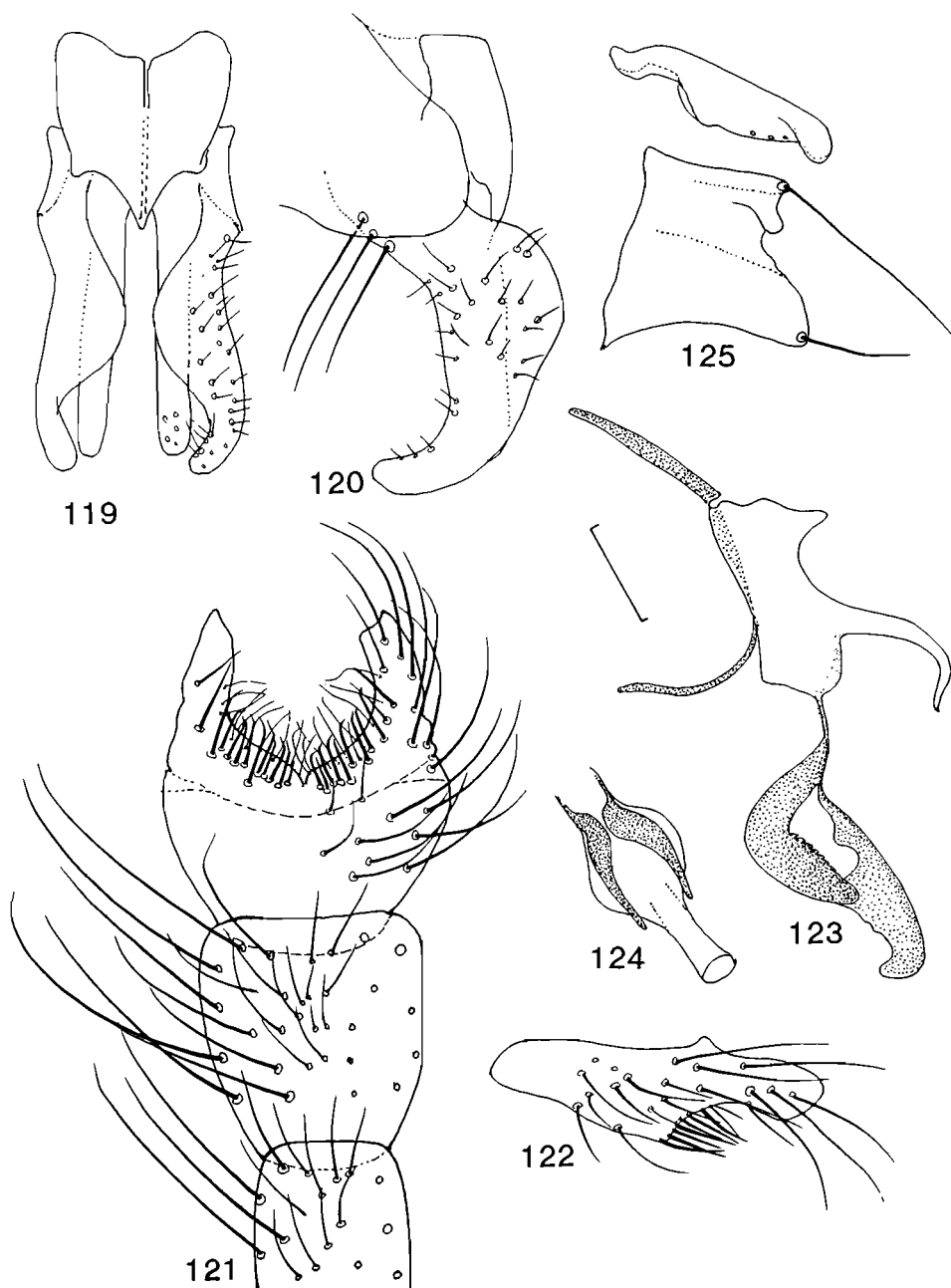
***Emmesomyia tumida* sp. n.**

Figs 10, 119–130

Holotype ♂: 'Holotype' [white circular printed label with red perimeter]; 'Pt St. John's / Cape / leg. Paterson // 22.ii.1954 / forest' [white printed rectangular label]; 'SOUTH AFRICA / Dr. F. Zumpt / B.M. 1976–442' [white rectangular printed label]. Glued onto a card point; front left leg missing, otherwise in reasonable condition; genitalia dissected and mounted in glycerol in a plastic tube on staging pin. In BMNH.

Paratypes: 5 ♀, same data as holotype. In BMNH.

Etymology: L. *tumidus* = swollen, swelling. The name *tumida* refers to the small swelling on the posteroventral margin of the pregonite.



Figs 119–125. *Emmesomyia tumida* sp. n., ♂ terminalia (Holotype). 119–120. Cercal plate and surstyli. 119. Caudal view. 120. Lateral view. 121. 3rd to 5th sternites. 122. 5th sternite, lateral view. 123. Phallus, lateral view. 124. Distiphallus, ventral view. 125. Gonites.

Male:

Colour: Head dark in ground colour with grey dust; antennae light brown with grey

dust, pedicel and scape slightly lighter reddish, frontal stripe black; palpi brown, prementum of proboscis light orange-brown, somewhat shining. Thorax (Fig. 10) dark brown, grey dusted, pleurae with traces of reddish brown translucency, especially on sutures and humeri; prst area of scutum, viewed from above, with hardly a trace of darker lateral markings, a brown dusted crossband present, with irregular hind margin, lighter brownish dusted medially, viewed from behind prst area appears very light grey dusted, viewed from in front only post area immediately in front of scutellum is grey dusted, prst area and crossband brown. Scutellum reddish brown with grey dust on apical 1/3. Abdomen largely yellowish to orange, especially tergite 1+2 and 3rd tergite, remaining tergites brownish, sternites including 5th sternite orange-brown, epandrium orange; viewed from behind at a low angle with a darker brown dusted mid-stripe, about as wide as T3, not widening out on anterior margins of tergites, but these have lighter brown dusting laterally. Wing membrane very light brownish tinged; squamae light brown tinged, border orange-brown. Legs orange-yellow, all femora brown in apical 1/5, tibia clear orange-yellow, t3 slightly deeper orange, tarsi darkened.

Head: Interfrontal stripe narrow below; eyes practically touching on frons, parafrontals linear; parafacials at level of lunule narrow, about 0.5 times width of flagellomere, hardly visible in profile at level of flagellomere; genae below lowest point of eye margin 0.09 times head height; 3 pairs frontal setae. Antennae with flagellomere 2.3 times as long as wide, arista only pubescent, longest hairs not longer than diameter at base.

Thorax: 3 pairs prst acr, anterior pair longest, all rather fine, rows separated by same distance that separates acr and dc rows, a few pairs of uni- to biserial fine hairs between rows; anepisternum with a developed upper anterior setula; anepimeron with a single setulose hair; notopleural depression bare; prealar seta about 3/4 length of post npl. Scutellum with only 5–6 scattered setulae on disc in apical 2/3. Katepisternals 1+2, lower p seta 3/4 length of upper.

Legs: f2 with 4 longer pv in basal half; f3 with 6 av, 3 pv; t1 with 1 very short ad in apical 1/4, 1 longer pv; t2 with 1 short pd, 2 p or pv; t3 with 2 av, 3 ad, and 2 pd.

Abdomen: Not strongly dorsoventrally compressed, in profile abdominal apex thickened, 5th sternite visible; 1.25 times length of thorax, viewed from above sides slightly convex, hence 3rd tergite widest, about 2.5 times as wide as long, 4th and 5th tergites gradually narrowing. Tergite 1+2 and 3rd tergite with erect discal setulae, those of 4th and 5th tergites depressed; marginal setae semi-erect on all tergites; 4th sternite almost quadrilateral, nearly as wide as 5th sternite, with long lateral setae. 5th sternite (Figs 121 & 122) with basal strong spinose setae on inner margins of lobes extended along lobes for some distance, lateral setae not longer than lobes. Surstyli (Figs 119 & 120) with outer lobes extended and covering inner lobes, both rather straight, in profile rather wide in middle; ventral margin with 3–4 strong basal setae. Cercal plate not strongly produced apically. Pregonite (Fig. 125) with apical margin not indented, with tubercle near posterodorsal seta, anteroventral lobe with a short setula; postgonite (Fig. 125) rather straight; phallus (Figs 123 & 124); basiphallus (Fig. 123) with epiphallus medially placed, anterior part of basiphallus rather wide.

Wing length 4.7 mm.

Female:

Colour: Antennae reddish brown, especially basal segments; frontal stripe black, reddish in front. Thorax with mesonotal markings as in male, sometimes prst lateral markings more distinct, triangular but still very small; pleurae in some specimens more extensively reddish. Abdomen largely orange-brown, a darker mid-stripe present which is wider basally on each segment, and darker lateral spots. Femora with dark apices as in male.

Head: Interfrontal stripe with developed crossed setulae; eyes separated on vertex by 0.29 times head width.

Thorax: Prst acr with anterior pair longest as in male, hairs between rows bi- to triserial. Katepisternals 1+2, lower p seta about 0.4 times as long as upper.

Abdomen: Tergite 1+2 and 3rd tergite with only short decumbent hind marginal setae, 4th and 5th tergites with some strong erect hind marginal setae; 4th tergite dusted on posterior half; 7th tergite with posterior margin bearing short anteriorly directed spinose setae on sclerotised semi-islets, without longer lateral setae, and sclerotised anterior arms about as long as median sclerotised part; 8th tergite (Fig. 129) with very short median strip; 7th sternite (Fig. 130) quadrilateral, with posterior margin bearing 2 short spines on a narrow extension.

Body length 5.0–6.0 mm, wing length 4.5–5.0 mm.

Discussion: The wide surstyli (especially basally), the non-indented apical margin of the pregonite with a small tubercle near the posterodorsal setula and the short lateral setae of the 5th sternite processes, distinguish the male *E. tumida* from all other species. The ♀ has only small indistinct dark prst markings on the scutum, and mainly yellow legs; and the shape of the 7th sternite of the abdomen may be characteristic.

Distribution: Only known from the type series from South Africa.

Emmesomyia natalia Malloch

Figs 9, 131–139

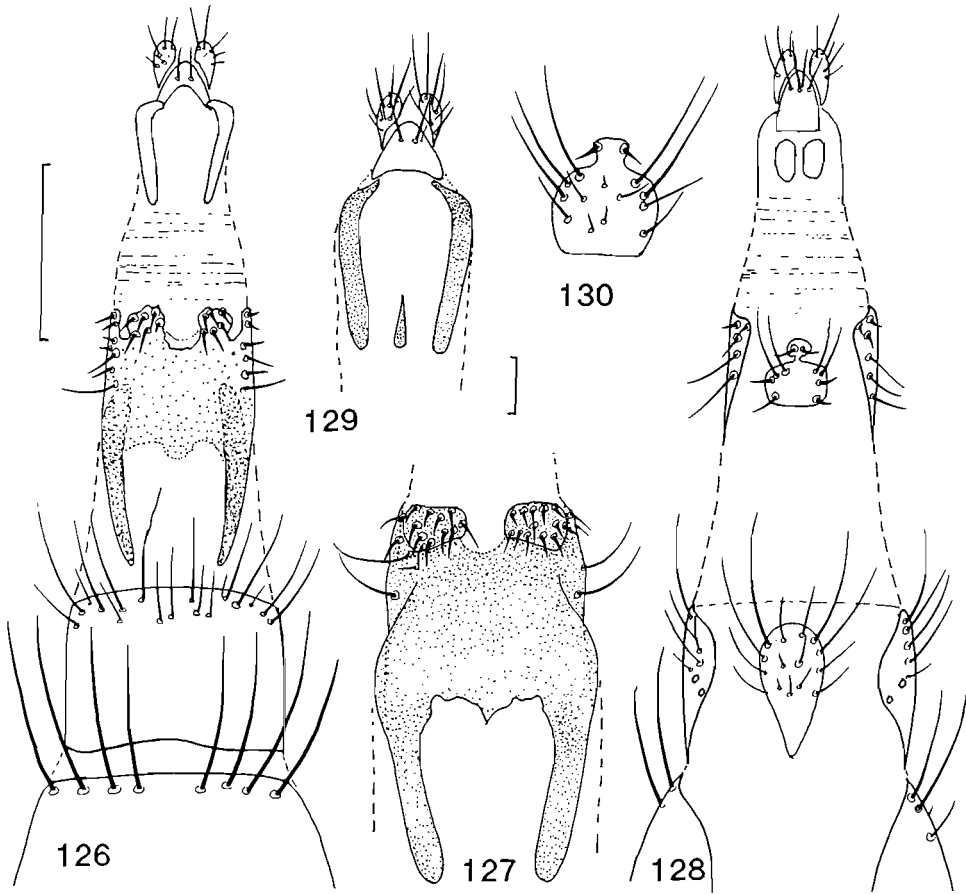
Emmesomyia natalia Malloch, 1924: 260; Emden, 1941: 259.

Holotype ♂: 'Holotype' [white circular label with red perimeter]; 'Estcourt / Natal / Sept & Oct. 1896 / G. A. K. Marshall / 1903–17' [white printed rectangular label]; 'Emmesomyia / natalia / det. J. R. Malloch / Type' [white printed and written rectangular label with black border]. In good condition, all appendages present, head glued on. Reviewed during present study. In BMNH.

Other material examined: LESOTHO: 5 ♂, 7.ii.1954, F. Zumpt (BMNH). SOUTH AFRICA: *Transvaal*: 2 ♂ 1 ♀, Teakworth, 19.iv.1954, (det) Paterson (BMNH); 1 ♀, Bapsfontein, 4.iv.1955, (det.) Paterson, on cow dung (BMNH). *Natal*: 1 ♀, Giant's Castle Game Res., Injasuti area, SE 2929AB, 5–11.xii.1993, J. G. H. Londt (NMSA).

Male:

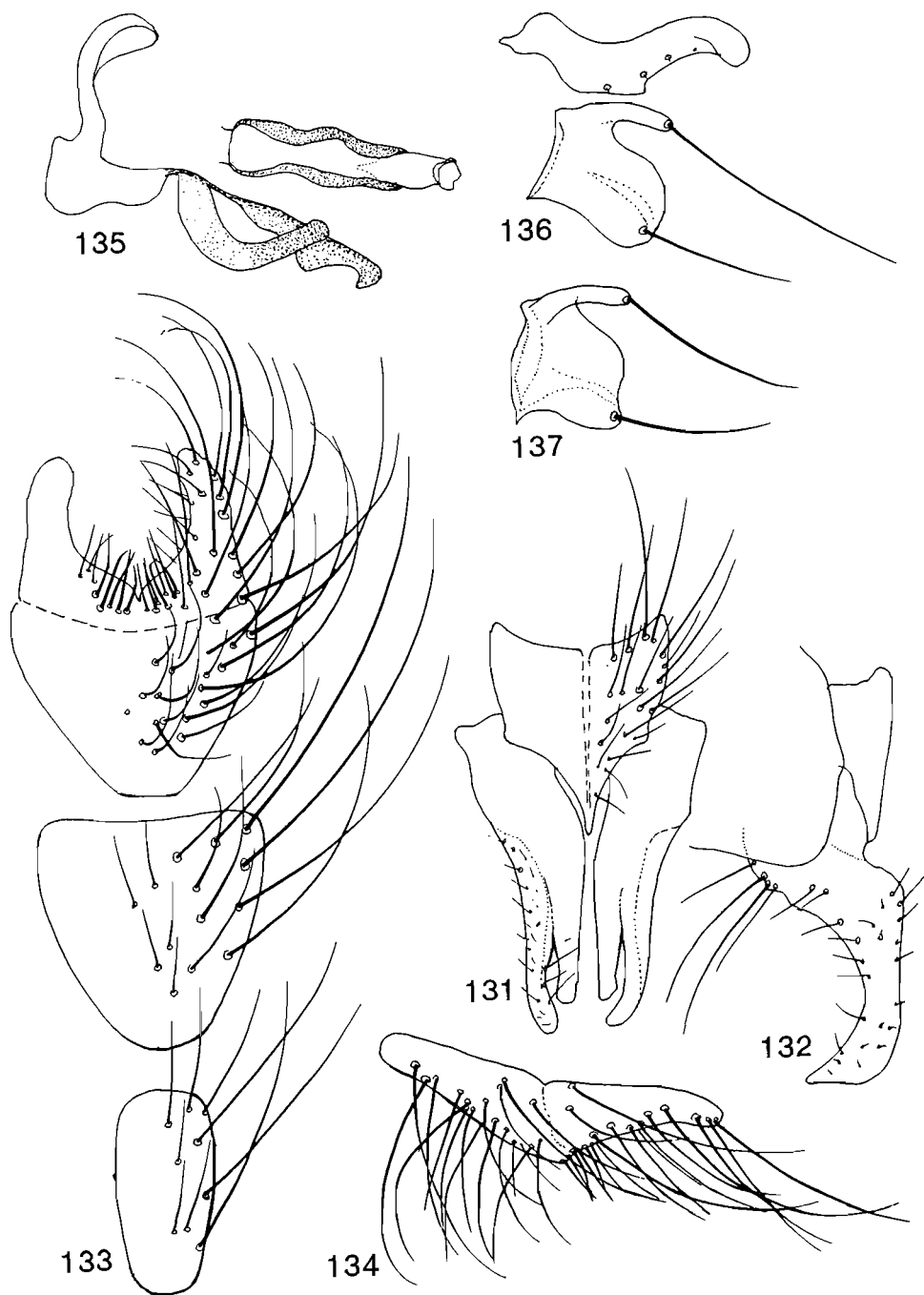
Colour: Head black with grey dust, interfrontalia dark reddish brown, genae with



Figs 126–130. *Emmesomyia tumida* sp. n., ♀ ovipositor (Paratype, Port St John's). 126. Dorsal view. 127. 7th tergite. 128. Ventral view. 129. Apical segments, dorsal view. 130. 7th sternite.

reddish patches; occiput with upper part shining blackish. Antennae dark brown. Palpi dark brown; prementum brown, weakly dusted, semi-shining. Thorax dark in ground colour, including pleurae, humeri and scutellum, with greyish dust, scutum (Fig. 9) with dark lateral prst spots triangular, viewed from above outer margins reach posthumeral, hind margins not reaching suture, inner margin falling short of prst dc, 2nd prst dc seta arising from grey dust; anterior corner of these lateral spots joined across anterior margin of scutum; post dark band divided by grey dusting along dc setae, this dusting shifting from a more vertical view point, hind margin of band not reaching 3rd post dc seta; scutellum with basal half brownish dusted, blacker laterally, apical part grey dusted. Abdomen brown in ground colour, grey dusted, with dark median stripe which is wider basally on each segment; cercal plate and surstyli orange-brown. Wing membrane pale greyish tinged, veins orange; squamae and fringe whitish. Legs largely infuscated brown, trochanters, base of femora, knees and tibiae orange, tarsi darker.

Head: Parafrontalia narrow and contiguous posteriorly, becoming 0.75 times width



Figs 131–137. *Emmesomyia natalia* Malloch, ♂ terminalia (131–136 = Lesotho). 131–132. Cercal plate and surstyli. 131. Caudal view. 132. Lateral view. 133. 3rd to 5th sternites. 134. Ditto, lateral view. 136. Gonites. 137. Pregonite (Transvaal).

of flagellomere opposite lunule; eyes separated by diameter of anterior ocellus; genae below lowest point of eye margin 0.17 times eye height; peristomal margin in lateral view well behind level of parafrontal angle. 5 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus, posterior setae not much shorter than anterior ones. Flagellomere 2.5 times as long as wide, apex level with lower eye margin; arista only pubescent, longest hairs not longer than diameter of arista at base.

Thorax: 3 pairs prst acr, middle pair the longest, rows separated by very slightly more than distance between acr and dc rows, with fine bi- to triserial setulose hairs inbetween; 2 posthumeral setae, outer one shorter but distinct; prealar seta 0.7 times length of post npl, inserted midway between suture and sa seta; area between pra and 1st post dc with 7–10 strong accessory setulose hairs, some nearly as strong as pra; scutellum wider than long, 0.75 times as long as wide at base, with 14–18 discal setulose hairs; 2+2 katapisternals, lower anterior hair-like and hardly half as long as upper, lower posterior nearly as long as upper; anepimeron with a single setula on dorsal margin; anepisternum with a developed upper anterior setula.

Legs: f2 with 5 pv in basal half, median setae shorter; f3 with 5–7 av, some longer, and 5 pv; t1 with a median pv; t2 with 2 pd, 2 pv; t3 with 1 av, 2 ad, 3 pd.

Wing: Costa with marginal spinules short, costal spines hardly discernible; lower cross-vein oblique and slightly sinuate.

Abdomen: Parallel-sided, 3rd tergite twice as wide as long, tergite 1+2 with erect discal setulae. 3rd sternite (Fig. 133) twice as long as wide; 4th sternite (Fig. 133) heart-shaped, wider along posterior margin, with long lateral setae; 5th sternite (Fig. 133) with short, strong inner basal setae, laterally with long curling setae, base of sternite also with long erect setae, in profile (Fig. 134) these setae projecting downwards. Surstylus (Figs 131 & 132) in caudal view with outer process longer than inner, in profile with 4 long basoventral setae, surstylus narrowing in middle. Pregonite (Figs 136 & 137) with apical margin not strongly indented, posterodorsal lobe narrow, anteroventral lobe wide, setae on each lobe strong; postgonite without a setula. Phallus as Fig. 135; basiphallus short, epiphallus subbasal; acrophallus projecting beyond paraphalli, distiphallus narrow in ventral view.

Body length 5.0–6.0 mm, wing length 4.7–5.6 mm.

Female:

Head: Frons at vertex 0.38 times head width.

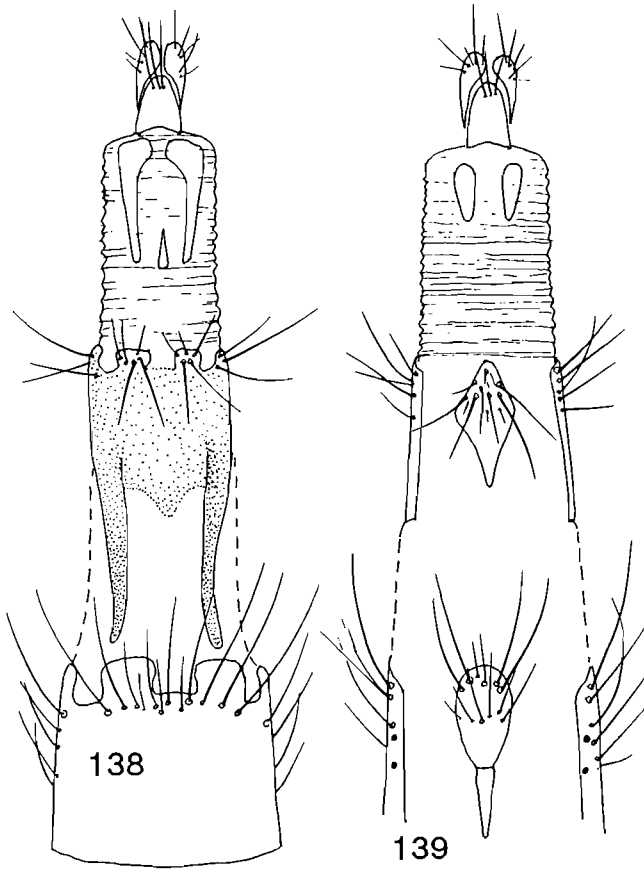
Thorax: Outer ph seta shorter and finer, lower katapisternal seta 0.4 times as long as upper.

Abdomen: Ovipositor (Figs 138–139); 7th tergite (Fig. 138) with posterior marginal setae rather long and fine, biserial on median semi-islets, especially anterior pair, and lateral setae also rather long.

Body length 4.5–6.0 mm, wing length 4.0–5.5 mm.

Discussion: The rather widely interrupted post band on the scutum (♂ ♀) and the developed outer ph seta will separate *E. natalia* from other species. The ♀ has biserial long setulae on the posterior margin of the 7th abdominal tergite.

Distribution: Apparently confined to the eastern part of southern Africa.



Figs 138–139. *Emmesomyia natalia* Malloch, ♀ ovipositor (Natal). 138. Dorsal view. 139. Ventral view.

Emmesomyia marshalli Emden

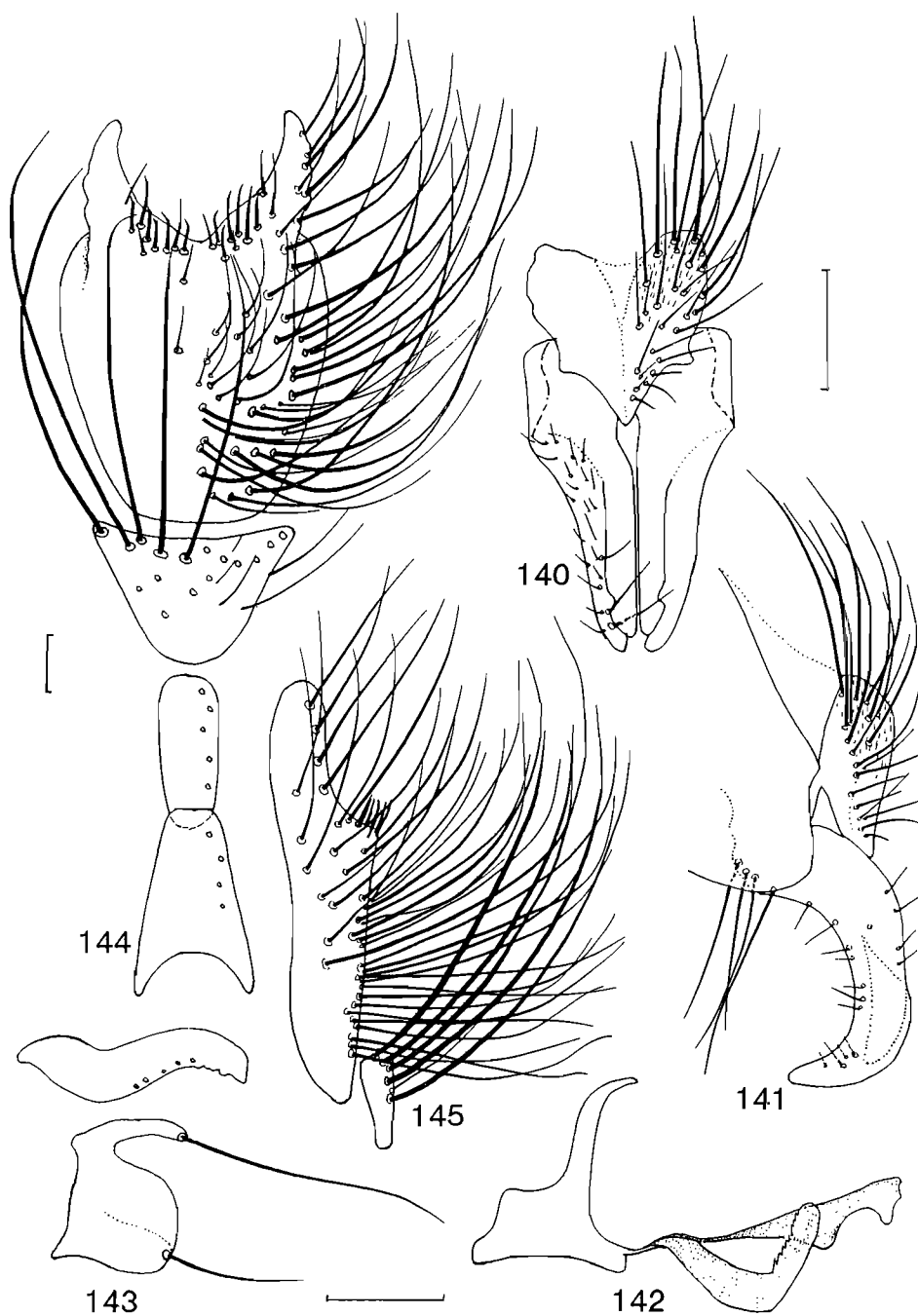
Figs 140–145

Emmesomyia marshalli Emden, 1941: 260; Emden, 1951: 350.

Holotype ♂: 'Holotype; [circular printed label with red perimeter]; 'Ulundi, / Natal / 5000–6500ft / Sept. 1896 / G. A. K. Marshall / 1903–17' [white printed rectangular label]; 'Emmesomyia / marshalli sp.n. / van Emden det. 1940' [rectangular white printed label]. Rather teneral, scutum collapsed due to large pin; all appendages present; genitalia dissected and mounted in glycerol in a plastic microvial mounted on staging pin. Reviewed during present study. In BMNH.

Male:

Colour: Head dark brown with dense greyish dust, interfrontalia dull reddish brown, parafrontals and genae obscurely orange. Antennae dark brown. Palpi dark brown, obscurely orange; mentum brown, slightly shining. Thorax brown with greyish dust;



Figs 140–145. *Emmesomyia marshalli* Emden, ♂ terminalia (Holotype). 140–141. Cercal plate and surstyli. 140. Caudal view. 141. Lateral view. 142. Phallus, lateral view. 143. Gonites. 144. Sternites. 145. 4th and 5th sternites, lateral view.

scutum with pair of dark brown prst lateral spots which are connected anteriorly and have rectangular posterior margins, not reaching suture, a dark post band (details obscured due to collapse of scutum); scutellum completely dark brown with thin brown dusting. Abdomen dark brown with grey dust, a dark slightly shining median stripe which is wider basally on each tergite, lateral margins of tergites (ventrally) paler orange; 5th sternite partly paler orange. Wing membrane clear hyaline, veins pale brownish; wing base and squamae whitish with whitish fringe; halteres yellow. All legs orange-brown.

Head: Parafrontalia touching on frons for a distance equal to width of flagellomere; eyes separated by 1.25 times width of anterior ocellus; genae below lowest point of eye margin 0.13 times eye height; 3 pairs parafrontal setae on anterior half of distance between antennal base and anterior ocellus. Flagellomere 2.3 times as long as wide, not reaching buccal margin; arista with total width of hairing hardly 0.25 width of flagellomere, ventral hairs distinctly shorter than dorsal hairs.

Thorax: Prst acr not discernible (according to original description, prst acr rows closer together than to dc setae, one pair long and fine); 2 posthumeral setae, outer one short and fine but longer than scutal hairs and slightly shorter than pra seta; prealar seta 0.7 times length of post npl seta; dorsal surface of scutellum with only a few setulose hairs (estimated less than 10); 1(2)+2 katepisternals, lower anterior seta short and fine; anepimeron with a single setula.

Legs: f2 with 1 v seta near base; f3 with about 5 av and some irregular pv of varying length; t1 with a median pv; t2 with 2 pd, 1 pv; t3 with 1 av, 3 ad, 2 pd.

Wing: Costa with marginal spinules short, costal spines hardly discernible.

Abdomen: Rather short, about 1.7 times as long as wide at posterior margin of tergite 1+2, 3rd tergite 3 times as wide as long; sternites (Figs 144 & 145), sternites 1+2 and 3 narrow, 4th sternite short, not quite half as long as basal part of 5th sternite, and wider than long, with row of about 8–10 very long and strong setae which reach to apices of lobes of 5th sternite; 5th sternite longer than wide, basal part covered with dense erect setae which extend to extreme anterior margin; processes short (hardly half as long as basal part) and tapering, lateral setae becoming shorter towards apices, inner basal part of processes with some short irregularly bi-serial spinose setae with curved tips. Surstylus (Figs 140 & 141) very similar to *natalia*, inner process in caudal view with a small notch near apex, in lateral view perhaps wider. Pregonite and postgonite (Fig. 143) not differing from *natalia*. Phallus as in Fig. 142.

Female: Unknown.

Body length 3.5 mm, wing length 3.9 mm.

Discussion: *Emmesomyia marshalli* is only known from the unique ♂ holotype. It differs from all other Afrotropical *Emmesomyia* in the relatively large basal part of the 5th sternite, with long strong erect setae, and the small 4th sternite with a posterior marginal row of very long setae.

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